

DOCUMENT RESUME

ED 299 720

EC 210 799

TITLE Access: Exceptional Children and Technology.
INSTITUTION North Carolina State Dept. of Public Instruction,
Raleigh. Div. for Exceptional Children.; North
Carolina State Dept. of Public Instruction, Raleigh.
Div. of Computer Services.
PUB DATE 88
NOTE 110p.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)
-- Reports - Descriptive (141)
EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS *Assistive Devices (for Disabled); *Computer Assisted
Instruction; *Computer Software; *Computer Uses in
Education; *Disabilities; Elementary Education;
Language Arts; Lesson Plans; *Microcomputers; Reading
Instruction; Teaching Methods
IDENTIFIERS *Apple II

ABSTRACT

The Exceptional Children and New Technology project sought to meet the instructional needs of physically handicapped, emotionally disturbed, learning disabled, and mentally handicapped children through the use of computer technology. The goals of the project were to test the instructional value of adaptive/assistive devices with exceptional children and to determine the best products, software, and applications. Four North Carolina elementary and middle schools were chosen as pilot sites. Representative adaptive/assistive devices and software were purchased, compatible with Apple II equipment. The subject area addressed was elementary-level language arts and reading. Teachers and coordinators were trained to use the products and developed learning activities with the resources. Guidelines were developed to assist teachers in using the new technology in their classrooms. For physically handicapped students, Apple IIe keyboard modifications were implemented. Approximately 20 learning activities are described in this guide. Each activity description provides appropriate ages, level of functioning, exceptionality, skill objective of the activity, basic education program correlation, software and hardware used, and a brief lesson plan. The guide concludes with: (1) forms for sample lesson plans and computer log sheets, and (2) listings of software for use with exceptional children. (JDD)

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EXCEPTIONAL CHILDREN AND TECHNOLOGY

Division of Computer Services
Media and Technology Services
Department of Public Instruction
1988

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EXCEPTIONAL CHILDREN AND TECHNOLOGY

PROJECT OVERVIEW

Exceptional Children and New Technology: Pilot Project Overview

Exceptional Children require different methods and techniques to meet the instructional needs of its populations. Computer technology offers potential for exceptional children's instructional needs. This new technology offers a way for students with handicapping conditions to learn, practice, and reinforce basic skills and subject area content in a controlled environment and at a rate to match students' abilities. The new technology also offers via peripheral equipment and software an opportunity to students with communications disorders, visual and hearing impairments, learning disabilities, or physical and perceptual limitations to compensate for their disabilities.

The Exceptional Children's program emphasis can be divided into two basic areas for computer planning. One area deals with the students who are physically handicapped. Children in this category may experience visual, hearing and speech, or motor control problems. Their intellectual ability may, or may not be impaired. Their instructional needs are usually specialized, and their interaction with computer hardware and software should be specialized (for example, a speech synthesizer for hearing impaired, large print or braille output for visually impaired, and special input devices for those with motor control problems.) Generally these adaptive/assistive devices can be used with the instructional hardware and software purchased by the school.

The second group of exceptional children could include Emotionally Disturbed, Learning Disabled, Mentally Handicapped, and others with learning problems. These students utilize drill and practice, tutorial instruction with emphasis on practice and repetition for basic skills applications. These students do not usually need hardware adaptation, but the software programs used require careful selection and in some cases modification. For example, the pace of the software, along with its visual stimulation and student feedback are all important.

Given the needs of exceptional children, the development of technology, and the need for documented information, the Division of Computer Services in cooperation with the Division of Exceptional Children developed a pilot project. The goal of the project was 1) to test the instructional value of adaptive/assistive devices with exceptional children, 2) to determine the best products, software, and applications, and 3) to disseminate that information.

Four pilot sites were chosen with consideration given to large units, small units, a variety of children and learning needs, and recommendations from Exceptional Children's staff and system-level coordinators. Representative adaptive/assistive devices and software were purchased. The decision was made to use Apple II family equipment and to address elementary grade areas of language arts and reading. Then teachers and coordinators from these systems were trained to use the products, gave input into further purchases, and took the resources to try in the actual learning situations. The names and addresses of these resource people are included in this document. At each site, the teacher developed learning activities with the given resources. These learning activities are also included in this guide. The pilot group felt the onsite testing of the devices and the software added to the value of this project.

After the project is completed during the 1987-88 school year, a master set of the hardware and software will be available for preview at the Media Evaluation Center on Reedy Creek Road, Raleigh. The project information will be shared with interested educators.

PILOT PROJECT PERSONNEL AND SITES

**EXCEPTIONAL CHILDREN AND NEW TECHNOLOGY
Pilot Project Resource People**

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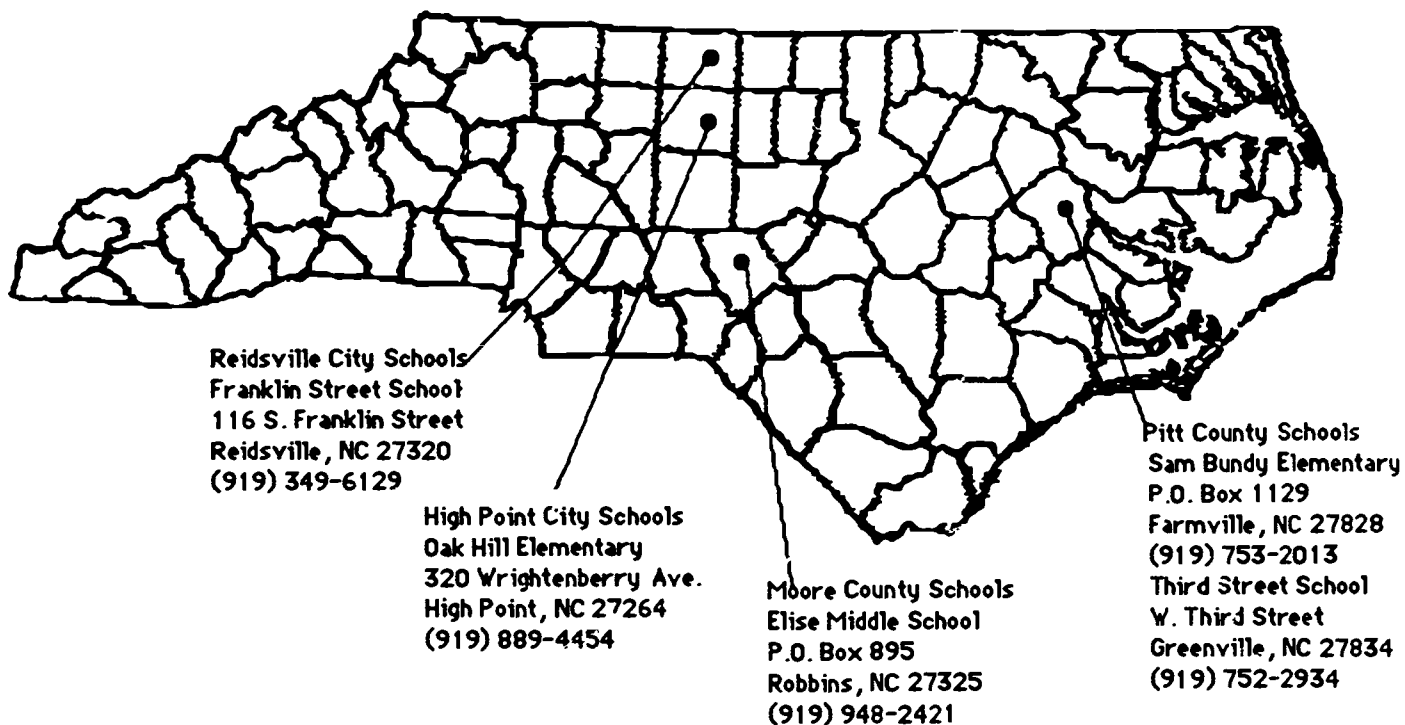
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*pilot sites



Exceptional Children and Microcomputers

Pilot Project Sites

THE COMPUTER AS AN INSTRUCTIONAL TOOL

The Computer as an Instructional Tool

It provides

- **motivation**
- **incentive**
- **a new method for instructional delivery**
- **reinforcement**
- **management capabilities**
- **control of their environment for exceptional children**

It

- **enables students with mental and physical handicaps**
- **is a problem solver**
- **is an impersonal monitor of performance with immediate feedback**

PLANNING FOR EXCEPTIONAL CHILDREN AND TECHNOLOGY

STEPS TO TAKE

**STEPS TO TAKE
TO USE NEW TECHNOLOGY
WITH EXCEPTIONAL CHILDREN**

• ASSESS THE LEARNING SITUATION

self-contained
mainstreamed
individual learning styles

• IDENTIFY SPECIFIC NEEDS

e.g. ability level, limitations of input, sight, sound, etc.

• IDENTIFY SPECIFIC SUBJECT AREAS

e.g. reading, mathematics, writing, social studies, media, etc.

• IDENTIFY SPECIFIC SKILL TO TARGET AND LEVEL OF INSTRUCTION

e.g. in reading the areas of structural analysis, blends, sight words

• SELECT SOFTWARE APPROPRIATE FOR IDENTIFIED NEEDS

• SELECT HARDWARE AND PERIPHERALS FOR IDENTIFIED NEEDS

Check the machine cards to facilitate software

**USING MICOCOMPUTERS AND SOFTWARE WITH
EXCEPTIONAL CHILDREN
HELPFUL HINTS**

Using Computers and Computer Software with Exceptional Children: Helpful Hints

Software

Choose software that:

- is flexible with the ability to change input levels and speed
- is modifiable for greatest variety of uses and styles
- is user friendly
- branches to needed levels of students
- is age appropriate for students
- has single concepts
- has few distractions on the screen, and the screen is not too busy or full
- permits teacher options such as level selection, speed, content, sound, record keeping
- has good documentation with follow-up activities and worksheets
- provides good, positive feedback to student user

Be aware of

- software capabilities before use. Preview software for best results.
- varying levels of program. Consider gaps in sequencing of tasks and programs
- software that reinforces errors

Management

Choose software that has

- record keeping capabilities for monitoring students
- teacher options for input and use

Consider

- a minimum of 15 minutes 3 times per week with computer, or 1 day per week
- ability grouping for software use
- the effectiveness of certain activities in a group situation, or individually
- students performance printouts for record keeping
- students with time to work individually for follow-up activities
- folders for stories, words, and records of computer usage

Physical Arrangements and Facilities

Consider

- one computer per classroom, not a lab situation for exceptional students
- a mobile cart for the computer, preferably with lockable wheels and adjustable table
- adjusting the computer and/or the monitor to a height or angle better suited to user. e.g. the angle of the monitor becomes critical for a student with a head wand.
- switches for students with limited abilities
- isolating the computer visually from the group
- controlling sound options in software

Training Needs

User should have

- beginning computer literacy(keyboarding, off, on procedures, etc.)
- understanding of peripheral installation
- training on use of management options
- basic ways to introduce software to students
- knowledge of wide variety of hardware and software as well as peripherals available
- time to work with hardware and software prior to use

Hardware

A suggested configuration includes

- a color monitor
- a microcomputer with 128K
- a disk drive, preferably two
- a printer

Additional Peripherals

Additional items include

- a Touch Window (needs to be kept clean for best reads)
- Muppet Learning Keys
- Echo II+ speech synthesizer
- a mouse

Next Steps

Consider

- an adaptive firmware card, especially for the physically handicapped (This card permits use of alternative input devices with software.)
- switches to accompany the adaptive firmware card for more physically limited students
- additional teacher training to utilize computer more creatively
- a clearinghouse of additional appropriate software

Apple IIe Keyboard Modifications for Exceptional Students

For exceptional students the repeat key functions and the "caps lock" function poses problems for easy efficient use. These two key functions may be modified. To adapt the Apple IIe one needs to seek the aid of the systems' computer technician, purchase some nominally priced items to permit the changes to be reverseable for regular uses, and follow the directions below. (The directions are furnished by Closing the Gap Inc.)

CAPS LOCK MODIFICATION

Here is a modification for the shift and control keys designed to allow them to lock in a down and unlock in an up position. This modification is useful for single digit, head or mouth stick typists who do not need a keyguard for stability.

(Description is taken from the December/January 1983/1984 CTG)

"The Apple IIe keyboard is actually a nest of small electric switches soldered together on a printed circuit board. One of these switches is pictured below.

The switches are identical, except for the one in the caps lock position, which happens to have an extra, tiny spring that holds the key down when you press it once, and lets it up when pressed again. This locking key will fit in the other places on the keyboard, so why not have a shift and control lock as well. All it takes is: removal of the entire machine cover (a few screws), two screws release the keyboard itself, and then just desolder the present control key and either or both shift keys, remove them and solder in the locking switches. The various marked keys fit on the plastic posts of the switches, so the control and shift buttons go right back on, leaving no apparent change to the keyboard (the shift button can require removal of a little plastic with a sharp craft knife to fit). Now when you need a shift or control with another key, lock down the shift or control and go on to the desired key, remembering that you will have to go back and "unlock" your shift and control.

This change can be easily accomplished by your dealer or service center. The locking switches cost about \$4.00 apiece (save the old keys in case some other one breaks). If doing the work yourself, make sure the power is off and you use the proper style soldering iron; a big, industrial welder will melt the whole computer! Also, a desoldering device is a help.

REPEAT KEY MODIFICATION.

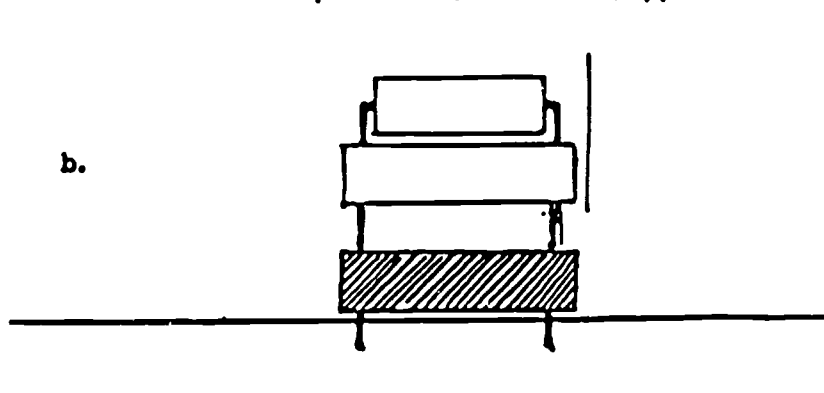
Here are the directions for the modification needed to disable the repeat key function on the Apple IIe microcomputer. All three methods require the removal the 40-pin chip (KR 3600-017) located directly in front of (toward the keyboard from) the keyboard cable connector on the right edge of the main printed circuit board.

a. Quick but permanent:

The easiest way to defeat the auto-repeat function is simply to remove the keyboard encoder chip (KR 3600-017) and bend pin #5 so that it sticks out to the side. Then simply reinsert the keyboard encoder chip in its socket so that pin #5 misses the socket and sticks off to the side.

b. Quick and removable:

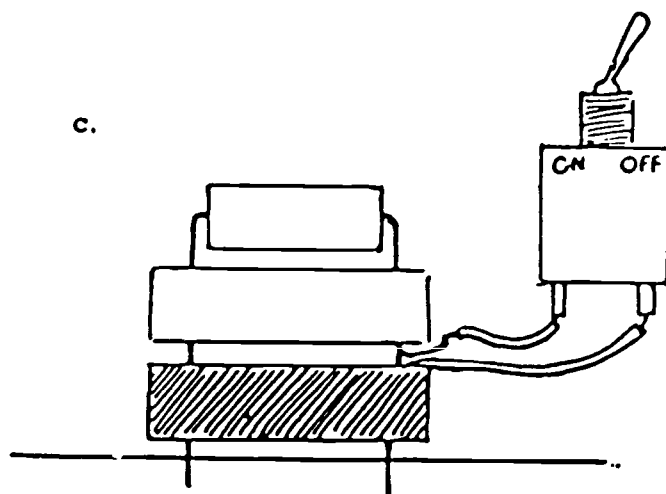
For this modification, you will need another 40-pin socket (available from Radio Shack) with flat pins coming out of the bottom (round pins may stretch the connector currently in the Apple). Take your new 40-pin socket and carefully clip off the 5th pin (pin #5). Now pull the keyboard encoder chip out of the Apple and insert it into this socket. Now insert your new socket (with pin #5 clipped off) into the Apple keyboard socket. The keyboard encoder chip can now be carefully reinserted into the new socket on top. You should now have two sockets piggy-back, with the keyboard encoder chip plugged into the top of both of them. However, since the socket in the middle has pin #5 clipped off, that signal cannot get to the main Apple Board, and the autorepeat function is defeated. To reinstate the auto-repeat function, simply remove your new socket from the middle, and reinsert the encoder chip directly into the Apple socket.



c. On and Off Repeat Function

If your Apple is to be used by many different users, some of who would like the repeat feature and some who do not, the following modification can be made.

Follow the steps for Modification b, except do not clip off the pin on your new socket. Instead, simply bend it outward and up. Then carefully solder one of two wires to the pin which has been bent upward. Insert a second stiff wire into pin #5 on the Apple socket. Be sure that the insulation on this wire prevents it from contacting the bent pin when you insert the new socket into the Apple socket. Now put your keyboard encoder ship into the top of the new socket and connect a toggle switch to the other end of the two wires. Now, when you flip the switch in one direction you will have auto-repeat; when you flip the switch in the other direction, you will not. The switch can be mounted in any convenient location, either inside or outside the Apple.



If you feel uncomfortable attempting this modification of the Apple IIe on your own, take this section of the manual to your computer resource person, technical support group or Apple dealer and they can do it for you.

**USING MICROCOMPUTERS AND SOFTWARE WITH
EXCEPTIONAL CHILDREN
LEARNING ACTIVITIES**

Using Microcomputers and Software with Exceptional Children:

Learning Activities

As participants in the Exceptional Children and Technology pilot project, each site teacher was asked to submit lesson ideas. The teacher was to try the hardware and software with students in their class to explore suitable applications, best subject matter integration, class introduction, and management ideas. The sample lessons included also reflect their judgement of grade level, level of functioning, and exceptionality, based on their class. Certainly different levels may be appropriate. Other teachers may check the Basic Education Program correlations and other suggestions as a guide for using the programs in their classroom situation. The software included is generally reasonable in price and is primarily for elementary language arts.

The participants in the project have all been enthusiastic about using computers with students and hope their suggestions will help you. Use their first steps to help you make a positive start with new technology in your classroom.

Exceptional Children and Technology

Activity: Use of the computer to teach vocabulary words.

Pilot Site: Student Age/Level of Function/Exceptionality

Age: 6 and above

Level of Functioning: First grade and up

Exceptionality: SLD, EMH, TMH, B/EH

Subject: Vocabulary

Skill: To increase word recognition through reinforcement with pictures

Basic Education Program Correlation: Communication Skills 10.1 Distinguish between words.

Software: Paint with Words - MECC A158

Hardware: Printer, optional

Plan:

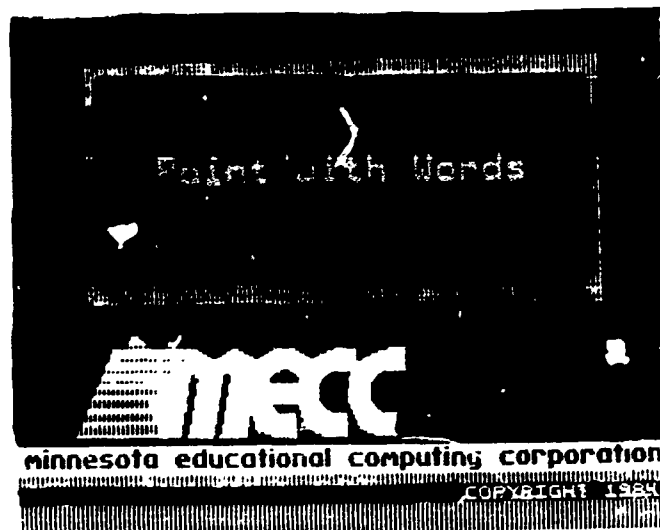
Introduction: Teacher explains that students will take a trip today on the computer. They choose the destination and the things they will see there. At the end of their trip, they will print a picture of their visit.

Instruction: Students select the place to visit and the things they will see. On the screen are a background graphic at the top and eight words at the bottom. The student moves words into the picture by using the arrow keys and presses the space bar to make a picture of the word appear. After words have been placed in the picture, the picture and words may be printed or saved on a disk. Depending on the student's reading ability, the teacher may need to provide assistance on word recognition.

Guided Practice: Student reads words as they are placed and forms printed picture after instruction.

Enrichment/Follow-up: Teacher can make flash cards of the words to reinforce fluent recognition. Student can write or tell story about his picture using all the words.

Helpful Hints: Print the picture at the top of the paper, fold the bottom up, and staple on the sides to form an envelope to hold flash cards. A large folder could be used to keep picture envelopes. Write the categories to choose from on the disk on the of the folder. Check categories as they use them



corn	cow	farmer	garden
goat	hen	pig	tractor
STOP		A BACKGROUND	



corn	cow	farmer	garden
goat	hen	pig	tractor
STOP		BACKGROUND	

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corn	cow	farmer	garden
goat	hen	pig	tractor
STOP		BACKGROUND	



Exceptional Children and Technology

Activity: Attending to screen during increasing and decreasing numbers of pictures.

Pilot Site: Student Age/Level of Function/Exceptionality:

Age: 11 years old

Level of Functioning: 11 months old

Exceptionality: Severe Mental Retardation

Subject: Communicating

Skill: To develop attending skills

Basic Education Program Correlation: Communication Skills K 1.1 - Viewing

Software: Sticky Bears - Numbers, Weekly Reader

Hardware:

Plan:

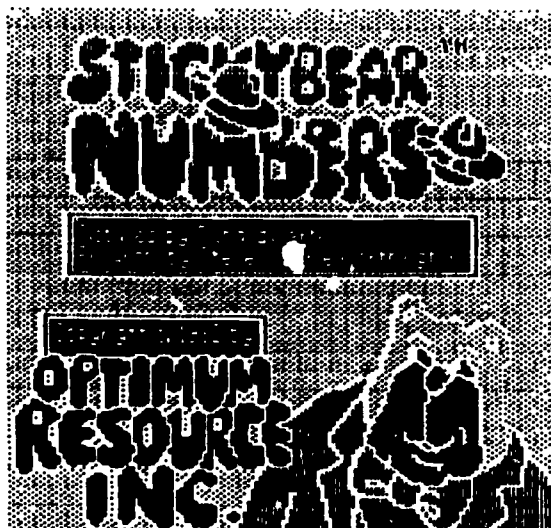
Introduction: Student is allowed to explore the different parts of the computer.

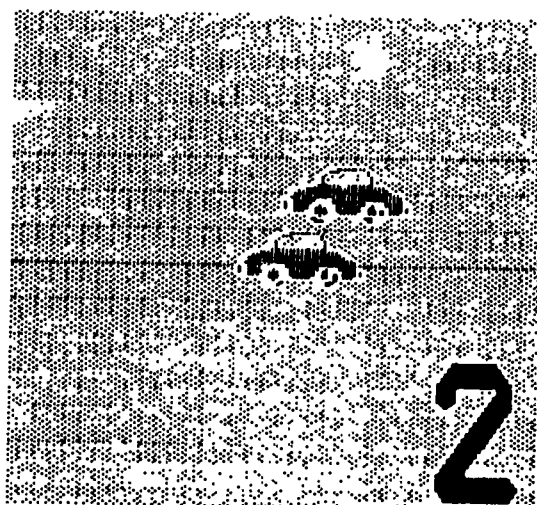
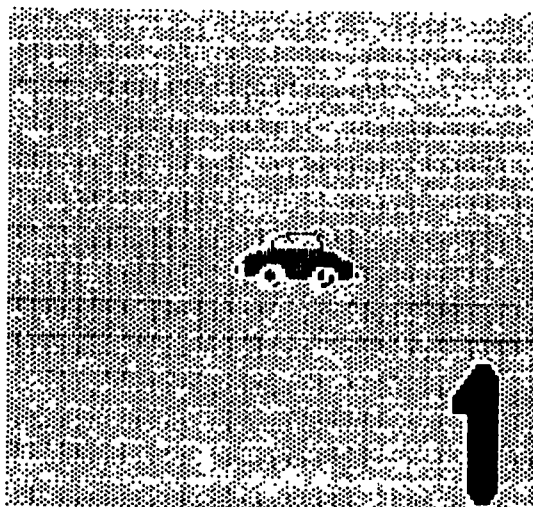
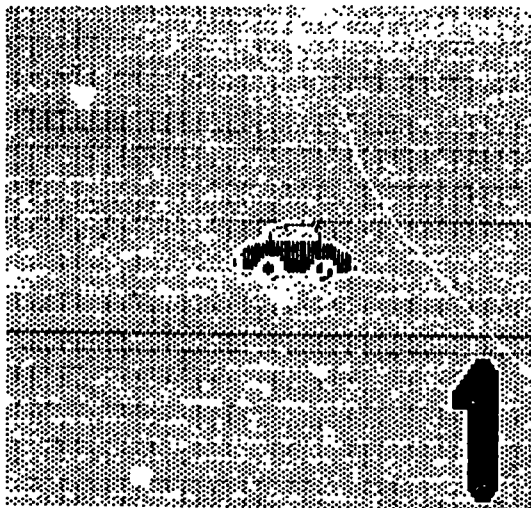
Instruction: Student is instructed to look at the monitor. Attention may be directed by tapping the monitor and immediately starting the program.

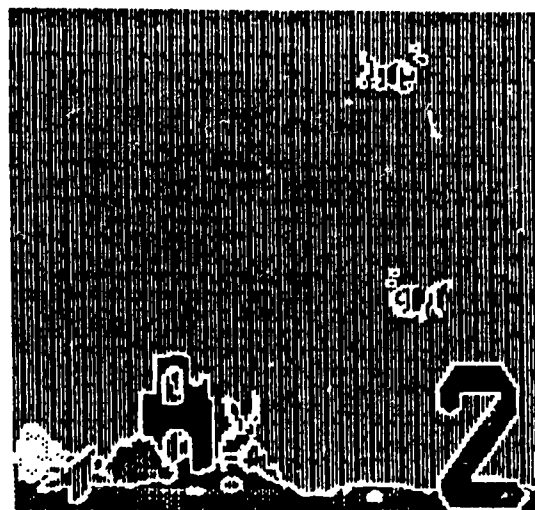
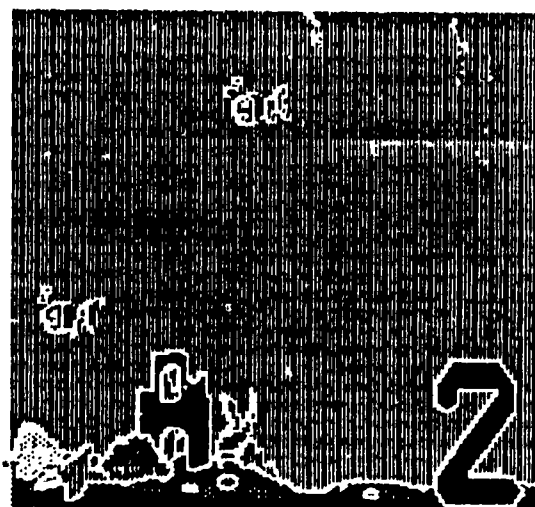
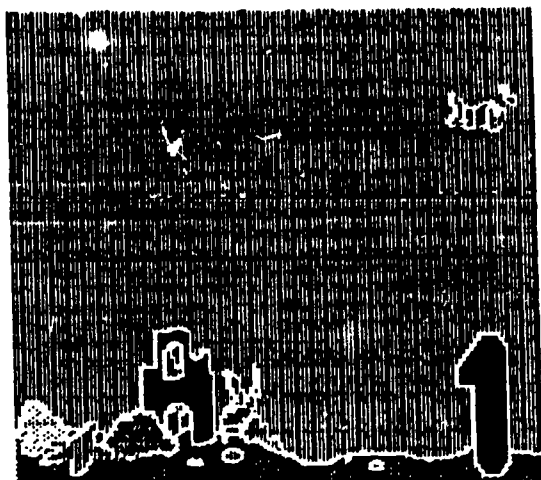
Guided Practice: Teacher elicits changes in the picture on the monitor and observes student behavior.

Enrichment/Follow-up: Attending to different situations and activities in the classroom for eight minutes.

Helpful Hints: Any program for early skills which is colorful would be good.







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Activity: Student matches pictures of objects which have the same initial sound.

Pilot Site: Student Age/Level of Function/Exceptionality:

Age: 8 years old

Level of Functioning: 5 years old

Exceptionality: Severe Cerebral Palsy (nonverbal)

Subject: Readiness Skills

Skill: To recognize initial consonant sounds

Basic Education Program Correlation: Communication Skills/Literature K 10.4

Software: Sound Ideas, Consonant Sounds, Houghton-Mifflin

Hardware: Echo II + speech synthesizer

Plan:

Introduction: The student recites repeating sounds of familiar letters and words as they are displayed by the computer. Lip closure is incorporated in assisting the child to attempt the initial sound.

Instruction: Instructions concerning how to use the program for the child are given auditorily via Echo II+. Further instructions can be given as needed, such as repeating the names of objects.

Guided Practice: Student identifies appropriate picture, then is assisted in using the keyboard to respond appropriately.

Enrichment/Follow-up: Find objects in and around classroom that have the initial sound "m." Emphasize words beginning with "m" used in daily activities. Generate a list of pictures of objects that have the initial "m" sound.

Sound Ideas Consonants



Press the Space Bar



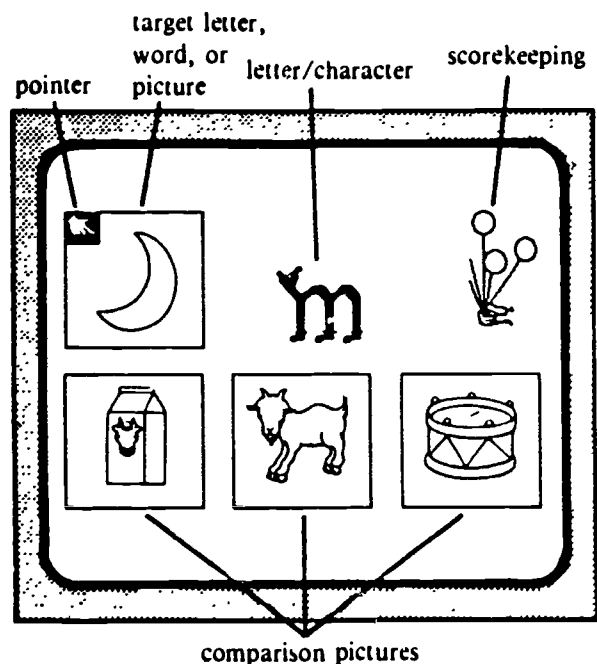
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PROGRAM SEQUENCE AND OPERATION

Program Sequence

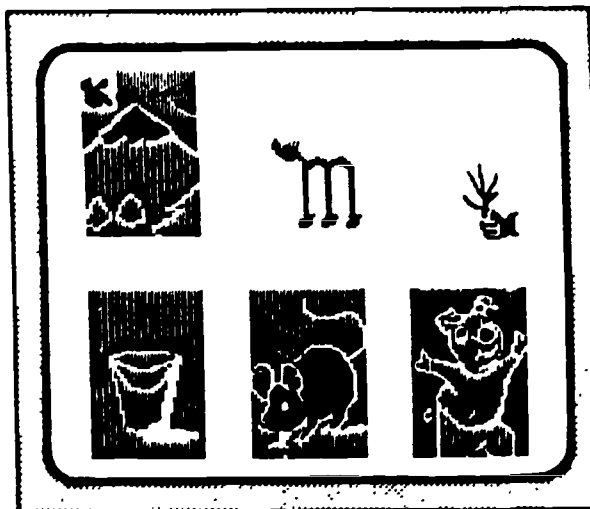
Sound Ideas progresses through different levels of lesson difficulty. The earliest lessons start with simple auditory discrimination of letter sounds. This is followed by a gradual introduction of the letter or

letters which correspond to that sound. The most difficult task requires that the child apply his/her knowledge of the letter-sound correspondence in a simple decoding task.

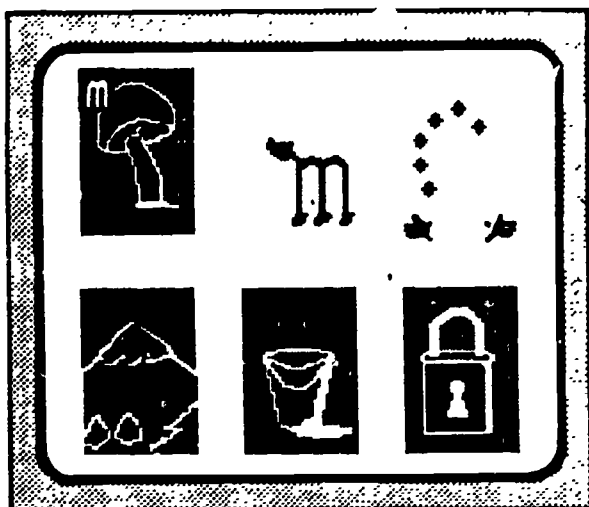


PROGRAM STRUCTURE. All lessons in *Sound Ideas* are variations of the format shown here. In each consonant or vowel lesson, the computer's voice asks the child to make a comparison between a target item and three pictures. Depending on the level of difficulty, the target item may be a picture, a picture with a letter, a letter, or a word. There are four basic formats used in *Sound Ideas*.

LEVEL 1. At the earliest level, the child is shown a target picture and must identify which of the comparison picture names has the same beginning sound as the target picture name. For this level, no reference is made to the letter(s) that might make that sound. The target in this example is a picture of a mountain and the three pictures are pail, mouse (the correct answer), and pig.

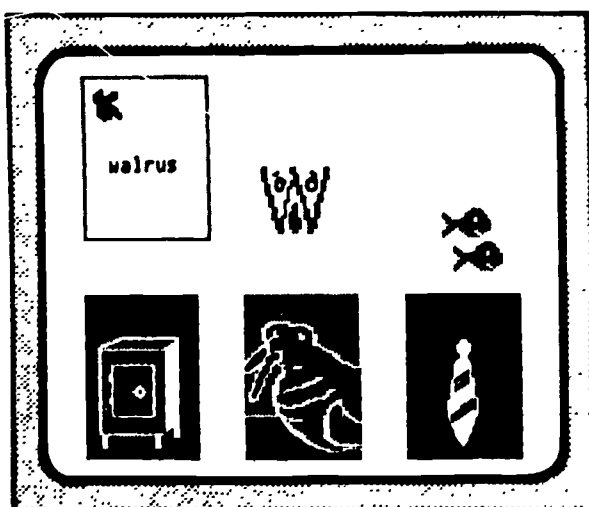
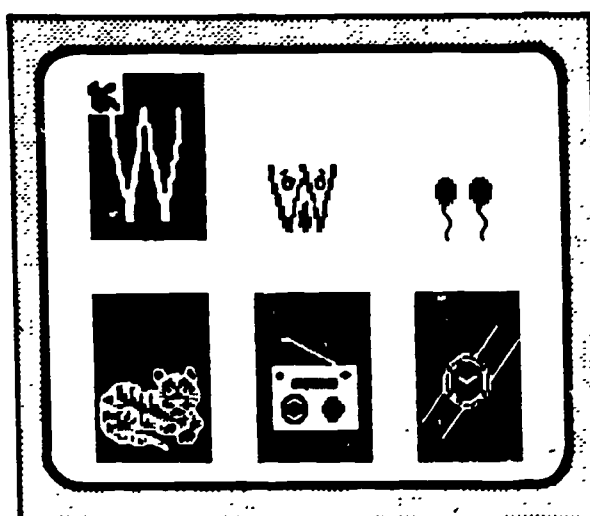


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LEVEL 2. This level also uses a picture target, but only as a reference. The child's primary task is to find the comparison picture whose name begins with the sound for a target letter. In the example, the correct picture is that of a mountain. A small image of the target letter replaces the pointing finger as the cursor. In some of the Level 2 lessons, the word form is shown (e.g., mountain, pail, and lock would be printed under the picture after they were picked) as part of the reinforcement message.

LEVEL 3. Now the picture reference is removed, and the child must make the comparison solely on the basis of the letter or letters. If extra help is needed, a target picture can be briefly recalled to aid the child in making their choice. This help feature is more fully described in the section describing the extra help key. In *Vowels*, the target is a word containing the vowel and its pictorial representation. As in *Consonants*, the child must find the comparison picture that has the same vowel sound.



LEVEL 4. The letter is now placed within the context of a word and the student is encouraged to use the letter as a cue in matching the target word with its picture. Comparison pictures are selected to insure that the correct choice can be made solely on the basis of the target letter. In this example, only walrus begins with the appropriate initial sound.

Exceptional Children and Technology

Activity: Use of the computer and vocabulary cards to determine likenesses and differences in objects and concepts.

Pilot Site: Student Age/Level of Function/Exceptionality:

Ages 7-9

Level of Functioning: K-3

Exceptionality: physically handicapped

Subject: Language Development

Skill: To develop visual discrimination

Basic Education Program Correlation K 5.1 Communication Skills: Viewing

Software: Odd One Out, Sunburst

Hardware: Touch Window (suggested)

Plan:

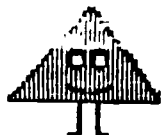
Introduction: Teacher presents objects in sets, with one member being unlike the others (balls, jelly beans, blocks). Discussion follows on various characteristics such as color, size, and function.

Instruction: Students select a picture of the different objects by touching the object on the screen of the Touch Window. As they decide, students tell how three of the objects are alike and why one is different.

Guided Practice: Teacher records scores of students and monitors progress throughout the various levels of difficulty.

Enrichment/Follow-up: Vocabulary relating to the computer examples are developed, and the students see the vocabulary in lists or on cards. Students are encouraged to observe differences in various objects with which they come in contact throughout the day, as well as in new concepts as they are being introduced.

Helpful Hints: There is a considerable gap between the levels of Odd One Out regarding reasoning skills. The teacher will need to carefully monitor progression of skills for certain students.




Program design: Donna Stanger

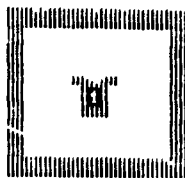
Programmed by: Paul Elseth & Lon Koenig

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ODD ONE OUT

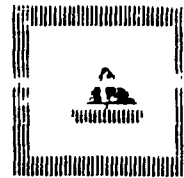
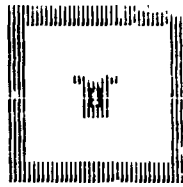
1. PICTURES.....
2. LETTERS.....ABC
3. NUMBERS.....123
4. WORDS....."WORD"
5. MATH.....1+2

Which one (1-5)?



Which one?

Please type: P for 11 G for 11
B for 11 C for 11



Right!

Press RETURN to go on.

Exceptional Children and Technology

Activity: Use of the computer to enhance auditory memory and relate computer stimuli to information already known.

Pilot Site: Student Age/Level of Function/Exceptionality:

Age: Primary, ages 7-9

Level of functioning: Readiness to second grade

Exceptionality: Educably Mentally Handicapped

Subject: Music

Skill: To develop language and listening skills

Basic Education Program Correlation: K 2.6 Music
K 2.6 Listening Communication Skills

Software: Memory Building Blocks, Sunburst

Hardware: Touch Window (suggested)

Plan:

Introduction: Teacher presents sounds that are alike and different using musical instruments and tape recordings. Children then list familiar tunes, or they may sing familiar songs.

Instruction: Using the Touch Window, students match like tunes. Students identify tunes as they are presented. As correct responses are given, reinforcement is given by the computer, and the gameboard has fewer distractors.

Guided Practice: Teacher records scores of students during the activity and monitors progress.

Enrichment/Follow-up: Students may investigate the tunes presented, rhythms, and pitch.

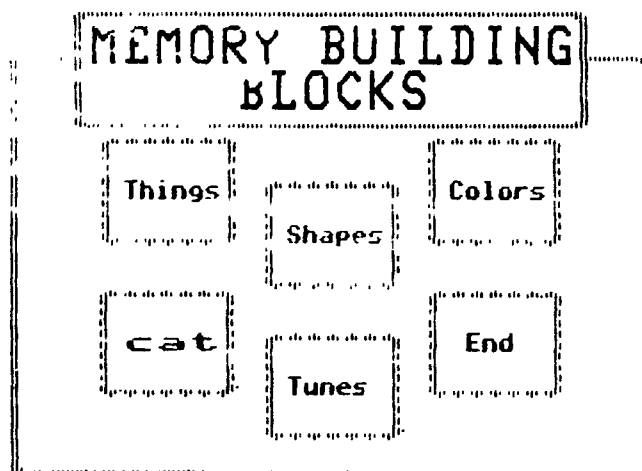
Helpful Hints: The gameboard of Memory Building Blocks may be adjusted depending on the ability level of the student. A gameboard with fewer distractors will be easier to complete, and might be an appropriate beginning activity.

MEMORY BUILDING BLOCKS

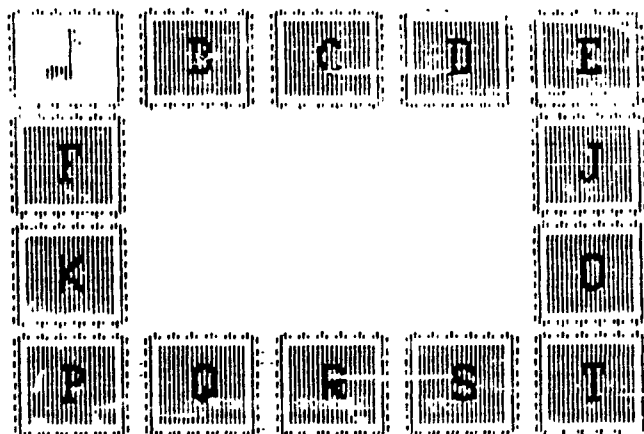
Designed by Pinna Stanger

Programmed by David Owen

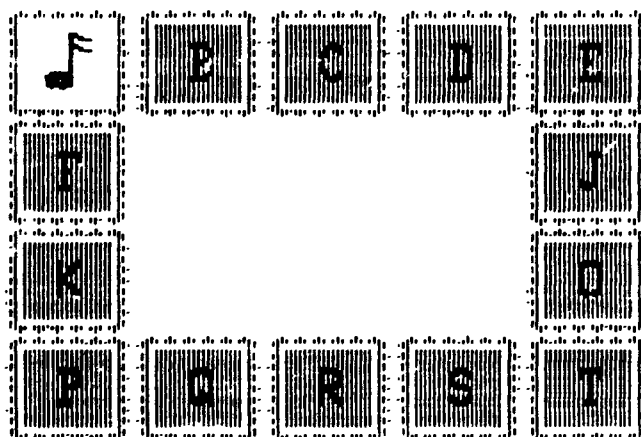
Permission to copy granted by Sunburst



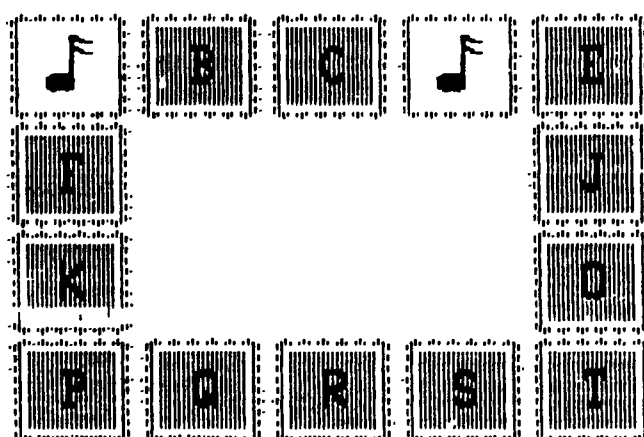
Use arrows to select,
then press RETURN.



Box A



Box A and Box ?



*** MATCH ***

Exceptional Children and Technology

Activity: Sequencing pictures, letters, numbers, colors using visual memory.

Pilot Site: Student Age/Level of Function/Exceptionality:

Ages: 13-16

Level of Functioning: K-3

Exceptionality: physically handicapped

Subject: Reading Readiness

Skill: Sequencing

Basic Education Program Correlation: Communication Skills - K - Reading 3.1.1

Software: Simon Says, Sunburst

Hardware: Muppet Keys and/or Touch Window are suggested

Plan: Students will sequence pictures, letters, numbers, and colors through sequential visual memory.

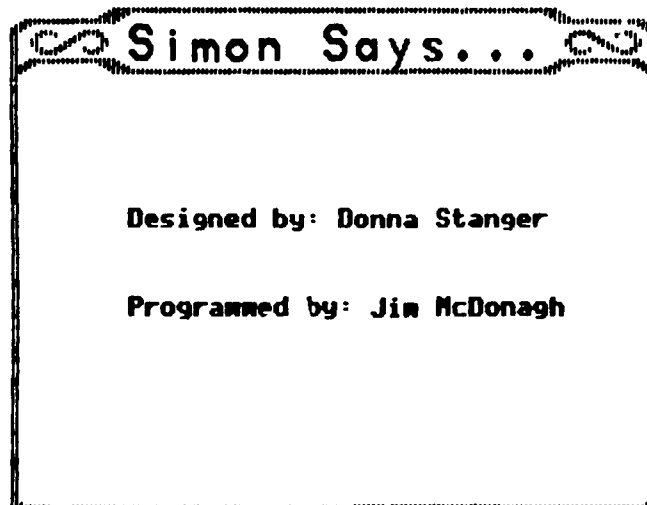
Introduction: Explain that the sequence of events in a story is important for it to make sense. Introduce sequencing skill by having children arrange cartoon pictures in sequence with no more than 5 frames. Mix them up and let them arrange them correctly .

Instruction: Turn on the computer and enter Simon Says software explaining that sequence in relation to letters, colors, and numbers is also important. Explain that they'll have to memo ize what is on the screen to continue.

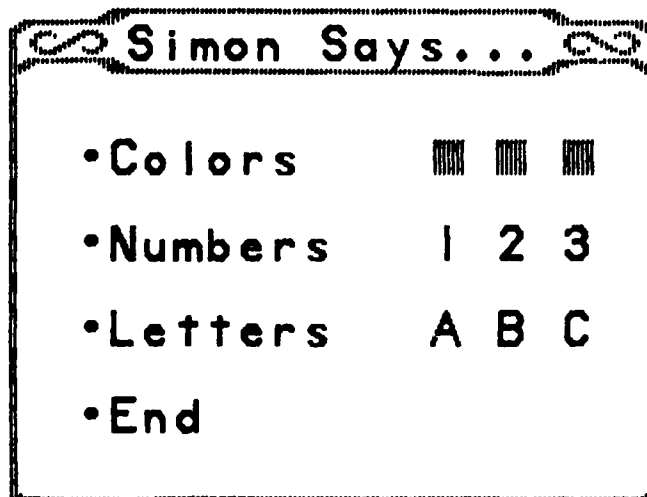
Guided Practice: Each student has guided practice in using Simon Says, emphasizing that he/she must remember the sequence as it appears.

Enrichment/Follow-up: Use a sequencing worksheet with pictures the student must put in order.

Helpful Hints: Switches may need to be made for students with more limited abilities.



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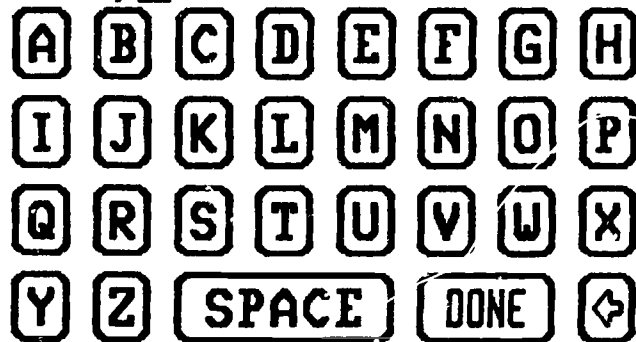
Touch one.

Do you want
directions?

•Yes •No

What is your name?

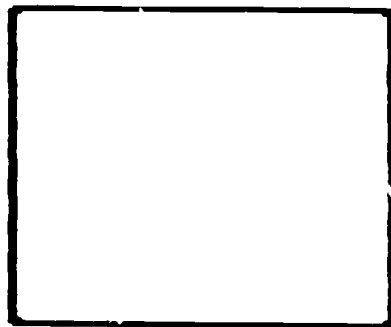
Mary_



DIRECTIONS

- In this game you will need to remember numbers in the order you choose.
- Each turn you will choose one more number to add, so the order will get longer and longer.

Touch HERE to continue.



What is the first number, Mary?

1 2 3 4 5 6 7 8 9

Touch a number.



What do you remember, Mary?

2

1 2 3 4 5 6 7 8 9

Touch a number.



What is the next number, Mary?

3

Touch HERE to continue.

Exceptional Children and Technology

Activity: Visually relating a picture, a shape, a color, or a word.

Pilot Site: Student Age/Level of Function/Exceptionality:

Ages: 13-16

Level of Functioning: K-3

Exceptionality: physically handicapped

Subject: Reading Readiness

Skill: To develop visual discrimination and memory

Basic Education Program Correlation: Communication Skills - K - Viewing 1.1

Software: Memory Building Blocks, Sunburst

Hardware: Muppet Keys and/or Touch Window are suggested

Plan: Students will visually associate pictures, shapes, colors, and words through visual memory.

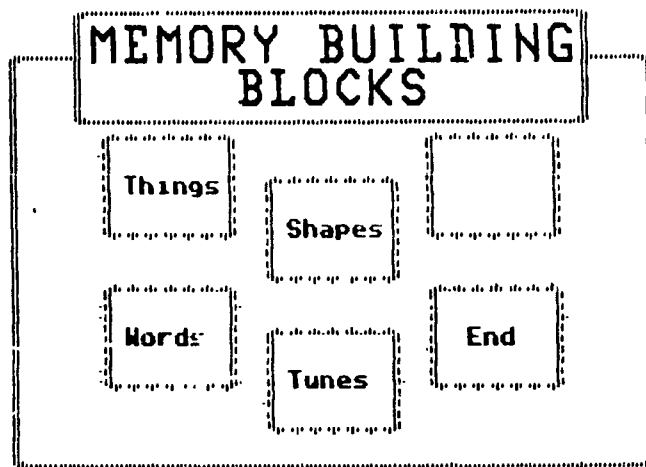
Introduction: Using color cards teacher shows students a color. Tell students they must find that same color from a choice of 5 colors. Make a game of it by turning all colors over, having students choose one; turn it over. Go until student chooses the same color; turning the wrong ones back over until the right color is chosen.

Instruction: Tell students they will play a similar game on the computer. Insert Memory Building Blocks and review directions.

Guided Practice: Each student has guided practice in using Memory Building Block. Emphasize to each student that he/she must try to remember what appears on the monitor each time.

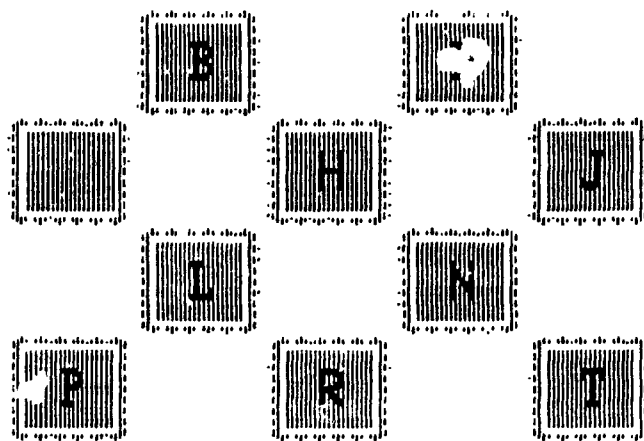
Enrichment/Follow-up: Use a worksheet where the student must visually associate two pictures among others. Individual practice with Memory Building Blocks.

Helpful Hints: Using Muppet Keys, the child must associate colors, and numbers on the monitor to the ones on the keyboard (Muppet Keys).

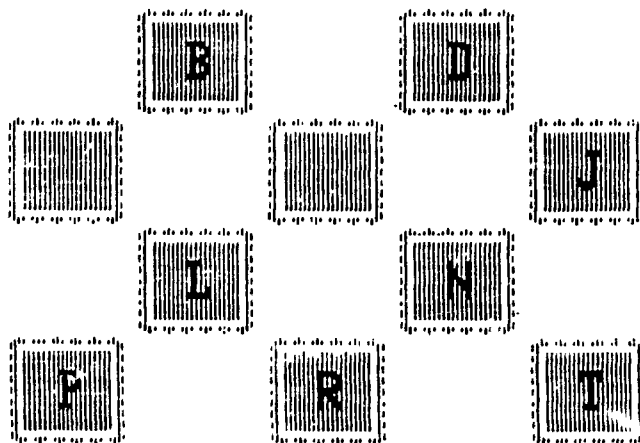


Use arrows to select,
then press RETURN.

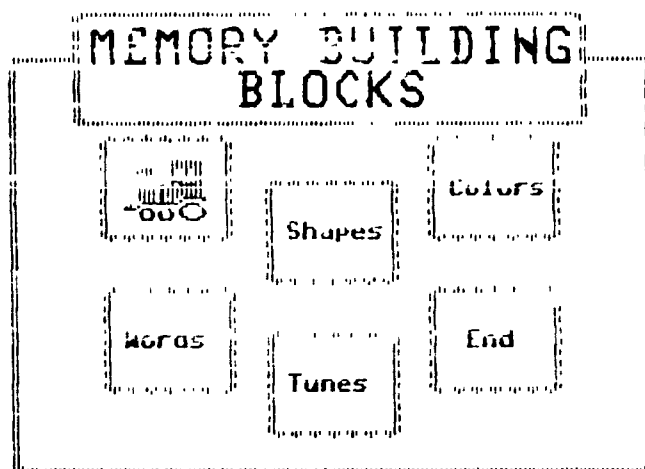
Permission to copy granted by Sunburst.



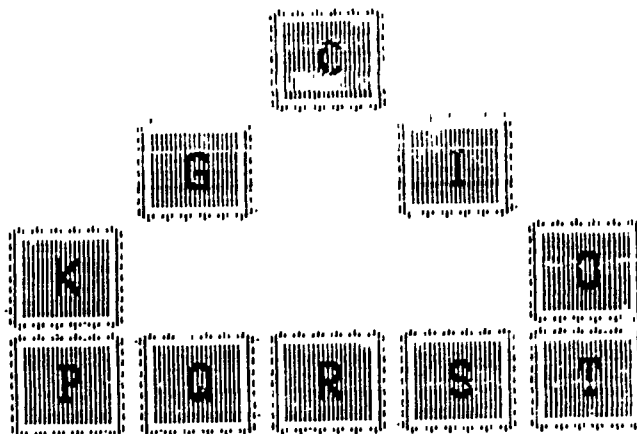
Box F and Box ?



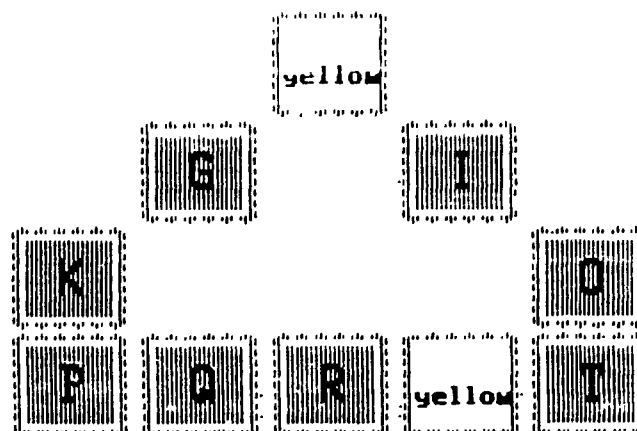
*** MATCH ***



Use arrows to select,
then press RETURN.



Box C



*** MATCH ***

Exceptional Children and Technology

Activity: Use of the computer and picture cards to master upper and lower case letter recognition and building ability to identify initial consonant sounds.

Pilot Site: Student Age/Level of Function/Exceptionality

Age: 6-7 years

Level of Function: g: Grades 1-3

Exceptionality: Learning Disabled

Subject: Reading/Vocabulary

Skill: To increase letter identification,
initial consonant recognition, and
memory skills

Basic Education Program Correlation: Reading/Literature First Grade 10.2

Software: Muppet Word Book, Sunburst

Hardware: Touch Window and/or Muppet Learning Keys

Plan:

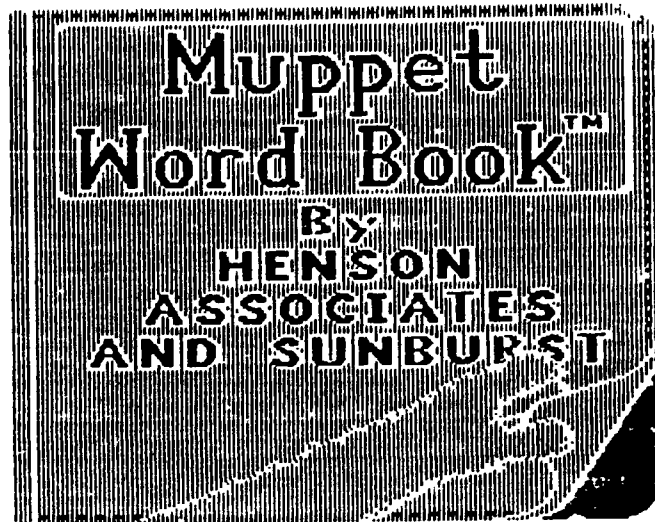
Introduction: Teacher explains activity of matching upper and lower case letters. Students will continue activity by using picture cards to identify initial consonant.

Instruction: Students begin matching upper and lower case letters using the "Elevator" program in Muppet Word Book. Student sees a lower case letter. Then, out of three choices, touches the upper case letter. After practice with this program, the teacher then divides cards evenly among students. Student must find a card with a word that begins with the letter shown on the screen, and raise his hand. Student names the picture. If correct, student presses the upper case letter that matches letter on the screen.


Guided Practice: Teacher monitors student responses on the screen and with the picture cards.

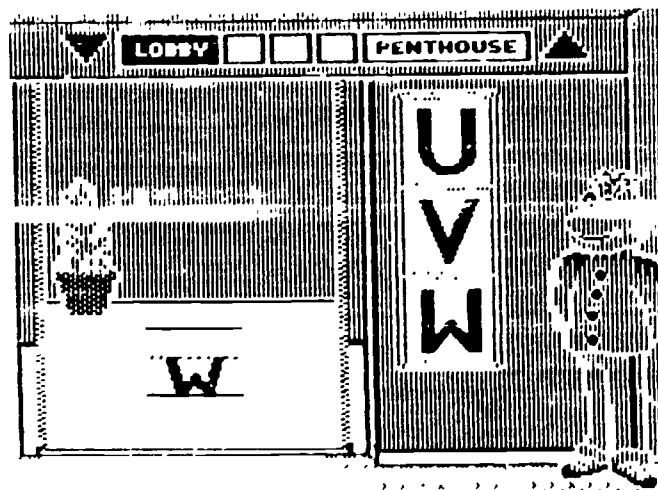
Enrichment/Follow-up: Have the student match upper and lower-case letters on the worksheet. Teacher makes upper-case cards and lower-case word cards and have student play concentration with the letter cards.

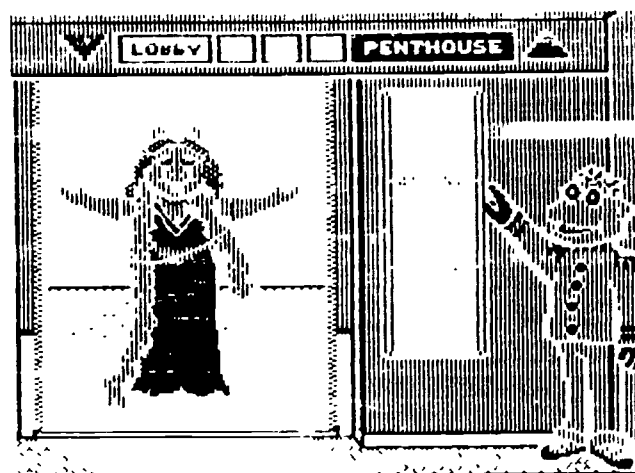
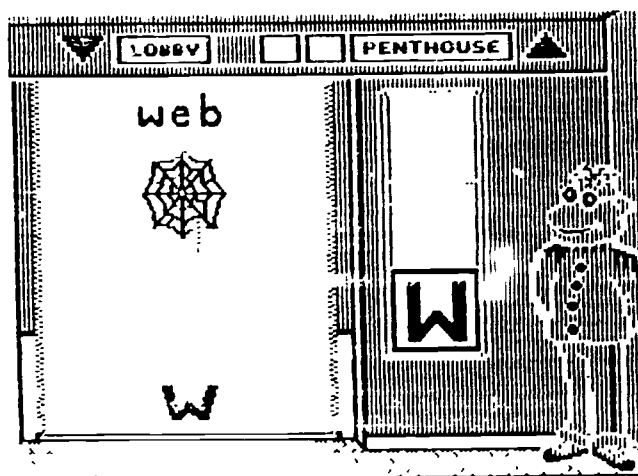
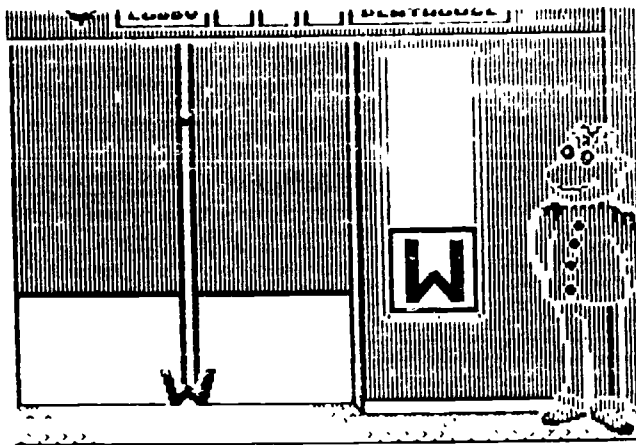
Helpful Hints:



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Exceptional Children and Technology

Activity: Use of the computer to reinforce recognition of learned words.

Pilot Site: Student Age/Level of Function/Exceptionality

Age: 6-10 years old

Level of Functioning: 1-3 grades

Exceptionality: LD/EMH Resource Students

Subject: Reading/vocabulary

Skill: To increase word recognition

Basic Education Program Correlation: First grade - Reading/Literature 10.1

Software: Memory Building Blocks, Sunburst

Hardware: Touch Window

Preparation

Plan:

Introduction: Teacher explains activity of matching words to each other. Teacher will read the directions and will tell student the words have been selected from his word list.

Instruction: The student begins by touching a letter for a word and then touching another to match it using "Words" program. The student orally reads each word he picks. If he has a match, he continues. If not, the next student begins.

Guided Practice: Teacher monitors student responses on the screen and oral responses.

Enrichment/Follow-up: Have student create a story using word processing (Kid Writer). Have student create a word book using correctly paired words. Student can write each correct pair on a chart to hang in the classroom.

Helpful Hints:

Teacher chooses "Edit Word File" in the change options menu. Teacher programs the selected words onto disk.

Exceptional Children and Technology

Activity: Use of the computer to write words and create a word booklet.

Recommended Student Age/Level of Function/Exceptionality

Age: 6-10 years

Level of Functioning: grades 1-3

Exceptionality: LD/EMH Resource Students]

Subject: Reading/Writing/Vocabulary

Skill: To increase word recognition through reinforcement

Basic Education Program Correlation: First Grade - Reading 10.1

Software: Muppet Word Book, Sunburst

Hardware: Muppet Learning Keys, printer

Plan:

Introduction: Teacher explains activity of making a book by writing words on the computer which student has mastered from a selected list.

Instruction: The student will make a cover sheet with the title and his name. Then he will write the words to be printed. The words are written in sets of four, the printer will print these. The student will cut out the title page and the word pages to make it into a booklet.

Guided Practice: Teacher will monitor student's written responses on the screen as each new word is added.

Enrichment/Follow-up: Have student illustrate book and read to teacher/peer.

1. Have students display books in media center.
2. Have students exchange books.

Helpful Hints:

Exceptional Children and Technology

Activity: Use of the computer to develop discrimination of vowel sounds and to recognize letter combinations associated with each vowel sound.

Pilot Site: Student Age/Level of Function/Exceptionality:

Age: 7 and above

Level of Functioning: First grade and above

Exceptionality: Learning Disabled Educable Mentally Handicapped

Subject: Reading

Skill: to develop phonics skills with vowel sound recognition

Basic Education Program Correlation: Reading 10.4, First Grade

Software: Sound Ideas Vowels, Houghton-Mifflin

Hardware: Echo II+ speech synthesizer

Plan:

Introduction: The teacher presents the vowel and its sound which the student will identify. The teacher will identify the keys used to operate the program.

Instruction: The student will listen to the instructions given via Echo II. The student will match pictures and words which have the target vowel sound.

Guided Practice: Teacher monitors students' responses on the screen when matching pictures/words with the target vowel sound. The student will continue the activity in the student activity book.

Enrichment/Follow-up: The students may look at objects or pictures and identify the short/long vowel sound which is represented. Students could make vowel booklets for each vowel sound.

Helpful Hints: Teacher should be familiar with the keys required to operate the program. Teacher may implement the supplemental activities found in the program booklet.

Exceptional Children and Technology

Activity: Simple mathematics addition

Pilot Site: Student Age/Level of Function/Exceptionality:

- Age: 6 and above
- Level of Functioning: First grade and up
- Exceptionality: LD EMH TMH B/EH

Subject: Mathematics

Skill: To teach or reinforce quick recall of simple addition facts.

Basic Education Program Correlation: Mathematics 2.1, Find sums of twenty.

Software: Speedway Math, MECC

Hardware: Printer, optional

Plan:

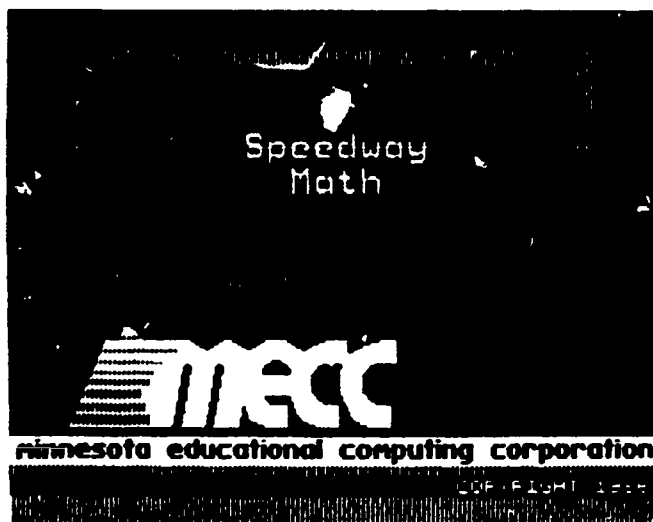
Introduction: Teacher explains the process of addition and reads directions from disk.

Instruction: The student begins by adding the addition problem shown on the monitor. The student then programs the answer and another addition problem is given. This process is repeated until ten problems are answered. At the end of the lap(or ten problems) the score is displayed showing the number of correct and incorrect responses. Also, the speed is given according to the time used to solve the ten problems.

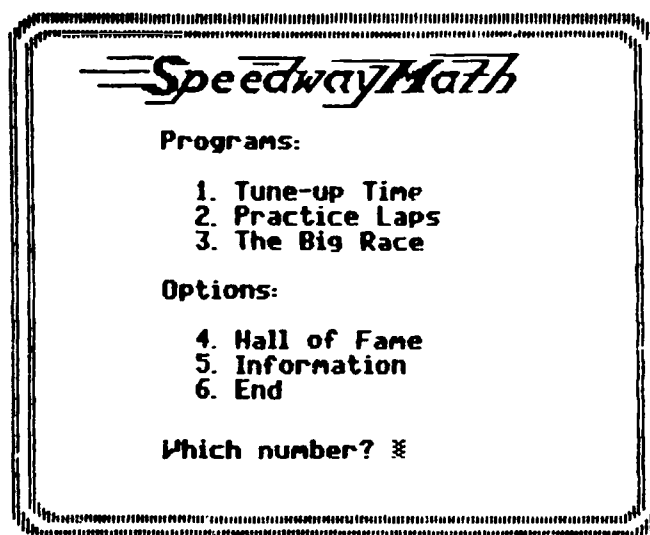
Guided Practice: Teacher guides student through problem-solving strategies.

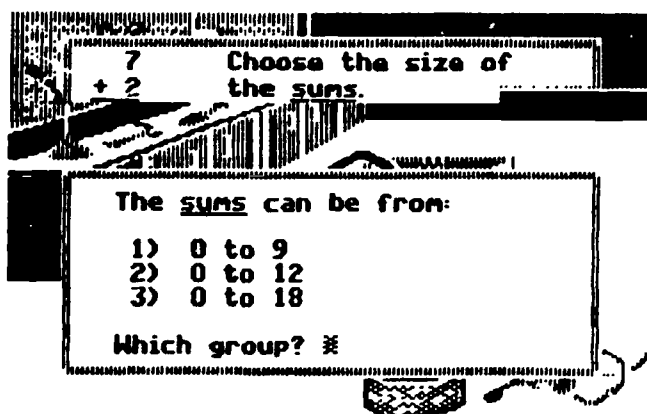
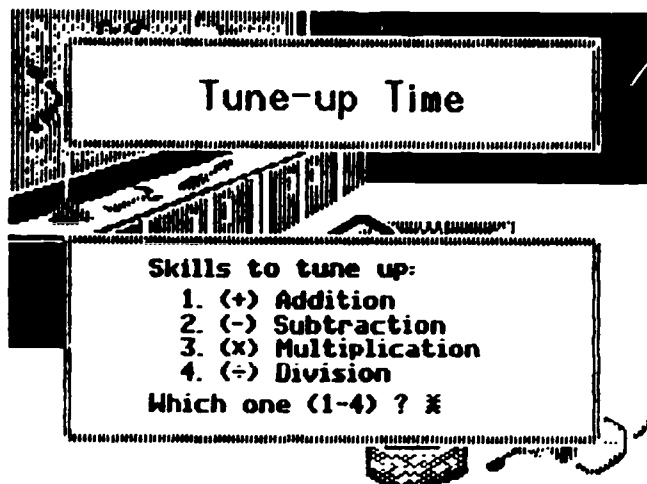
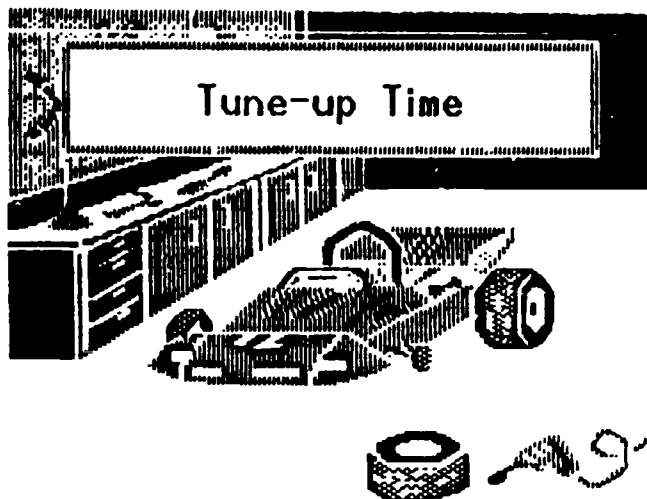
Enrichment/Follow-up: Students compete by comparing the rate of speed with prior practice lap speeds or by comparing with peer lap speeds.

Helpful Hints: With the use of a printer, a record of students scores can be printed to show progress or used for teacher reference.



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The Big Race

What is your
last name? Jones

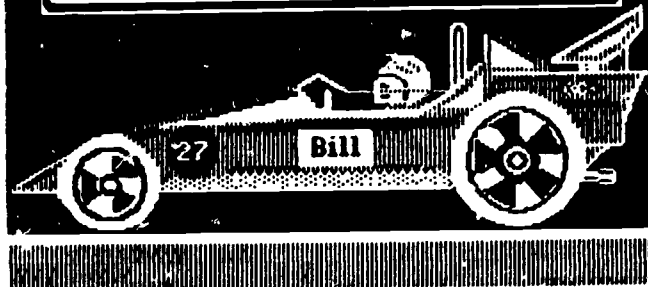
What is your
first name? Bill

What number (1-99) would you like
to use on your race car? 27

Races:

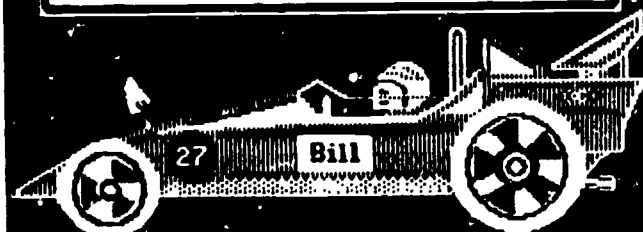
1. (+) Indianapolis 100
2. (-) Daytona 100
3. (x) Firecracker 100
4. (÷) Baja 100
5. (Mixed) French Grand Prix

Which race (1-5)? 1



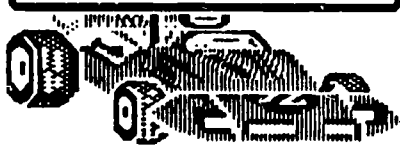
Welcome to the Indianapolis 100

Today's race has 100 addition
facts. A pit stop adds 5 seconds
to your time. Good luck!

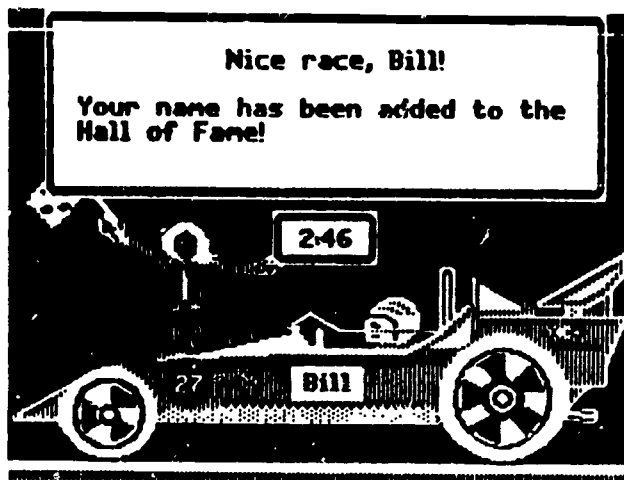


Press SPACE BAR to continue

Problem 1

$$\begin{array}{r} 6 \\ + 0 \\ \hline 6 \end{array}$$


Press 'P' for a Pit Stop



Exceptional Children and Technology

Activity: Use of computer to test knowledge of subject area covered in classroom discussion

Pilot Site: Student Age/Level of Function/Exceptionality

Age: 12 - 18

Level of Functioning: K - 3

Exceptionality: TMH

Subject: Survival Skills: Tool Knowledge

Skill: To select from multiple choice correct answers about tool usage.

Correlation: Safety/First Aid Grade 1, 1
Reading/Literature K, 7; Grade 1.7

Software: CAPTAIN: Cognitive Training System: Conceptual Skills: Pattern in Display, Cognitive Training Systems

Hardware: ECHO (OPTIONAL), Printer (optional): for teacher use of obtaining hard copy of test, and test results.)

Plan:

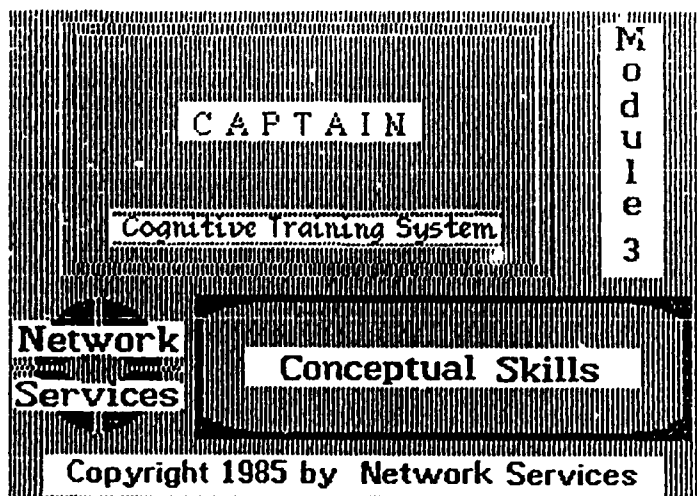
Introduction: Teacher explains that students will be taking a test to see how much they remember about the tools they have studied. They will not have to read the test themselves.

Instruction: The teacher will load the test, and explain to the students that the speech synthesizer will read the test to them. The answers will "light up". When the right answer is high lighted, the student will press return

Guided Practice: The teacher will talk the students through the first question to be sure they understand the sequence of actions used to answer

Enrichment/Follow-up: Different test formats may be used to assure knowledge of subject matter and keep student interest high.

Helpful Hints: Students who read will find it more challenging to take the test without use of the ECHO. They will enjoy this format of test taking



NUMERIC DISPLAY MATCH

MOVE THE MOUSE TO SELECT AND
CLICK THE MOUSE TO CHOOSE

PREVIOUS MENU

BEGIN TASK

TASK INSTRUCTIONS

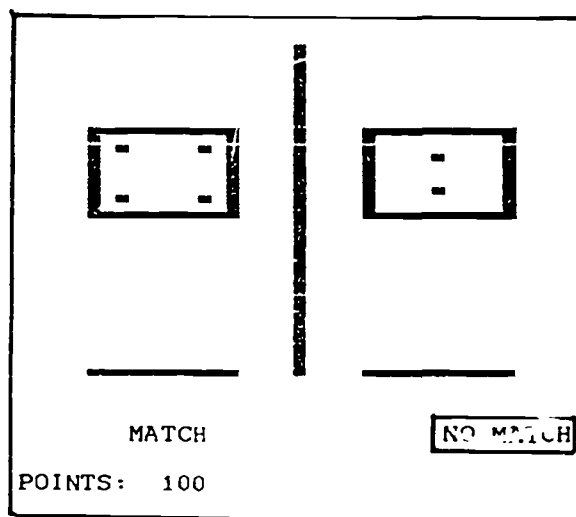
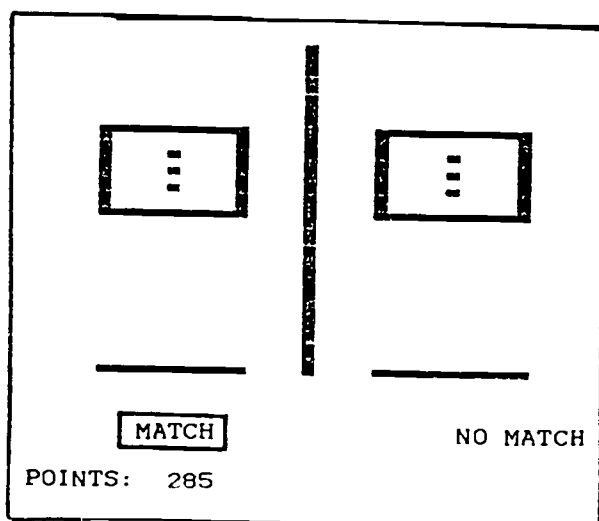
BEGINNER

CONTINUOUS DISPLAY

1 MINUTE

ASSESSMENT

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SCORE MENU

MOVE THE MOUSE TO SELECT AND
CLICK THE MOUSE TO CHOOSE

PREVIOUS MENU

PRINT SCORES

RECORD SCORES

PRINT AND RECORD SCORES

TASK: NUMERIC DISPLAY MATCH
NAME: JOAN
DATE: 02/08/88

INCORRECT CHOICES: 2 8.7%
NON-RESPONSE ERRORS: 0
AVERAGE REACTION TIME: 1.3 SECONDS
POINTS: 1064

DIFFICULTY: BEGINNER
DISPLAY TIME: CONTINUOUS DISPLAY
TIME: 1 MINUTE
MODE: ASSESSMENT

CLICK THE MOUSE TO CONTINUE...

Exceptional Children and Technology

Activity: Use of computer to train students in cognitive skills

Pilot Site: Student Age/Level of Function/Exceptionality

Age: 18 and 19

Level of Functioning: First and second grade

Exceptionality: TMH

Subject: Numerical Skills

Skill: To view similarities in number value of object
To increase eye-hand coordination
To increase motor planning

Correlation: Mathematics/numeration K, 1
Mathematics/numeration Grade 1, 1
Mathematics/whole numbers K, 2
Mathematics/whole numbers Grade 1, 2

Software: CAPTAIN: Cognitive Training System: Conceptual Skills: Pattern in Display, Cognitive

Hardware: Mouse (or Trackball), printer

Plan:

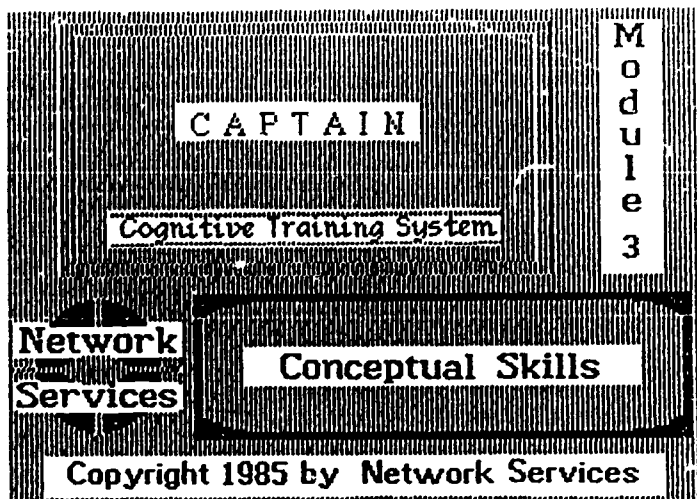
Introduction: Teacher explains that students will play a game to see if two boxes have the same number of squares in them. Scores will be printed of how well they do.

Instruction: The students will see two boxes on the screen divided by a line. The boxes will have squares in them. The students count the squares to see how many are in each. Under one box it says MATCH, under the other it says NO MATCH. The students must move the mouse to highlight the correct answer, then click to record their choice.

Guided Practice: The teacher may allow the students to watch a demonstration of a practice game. Some students will need even more guidance than this since the task involves more than just knowing the correct answer, but motor planning and sequence of motor activities.

Enrichment/Follow-up: For students who have difficulty with the chain of events that must occur, the teacher may want to simulate this activity in a one-to-one setting without the computer first.

Helpful Hints: A log may be kept daily to note student progress. This program allows the teacher to set many options such as display time, difficulty, level, right or left hand usage. This program has three disks with a total of 21 activities for training.

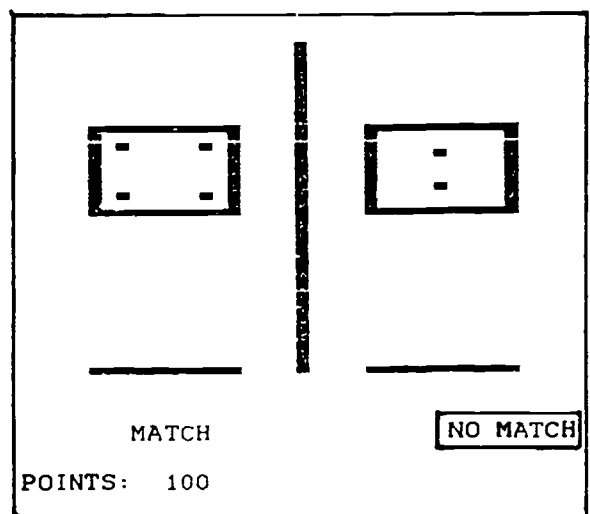
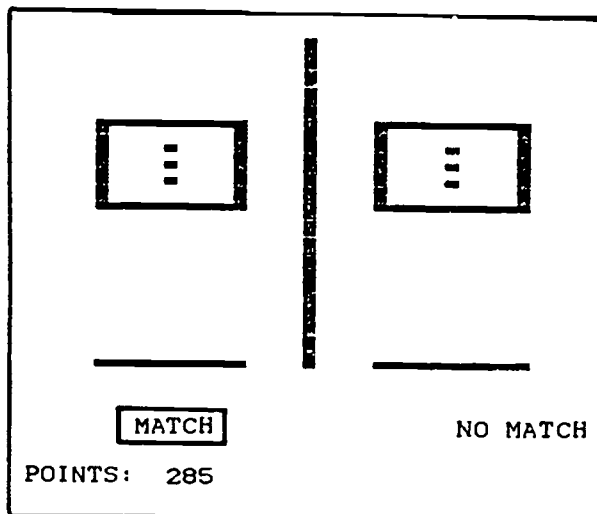


NUMERIC DISPLAY MATCH

MOVE THE MOUSE TO SELECT AND
CLICK THE MOUSE TO CHOOSE

- PREVIOUS MENU
- BEGIN TASK
- TASK INSTRUCTIONS
- BEGINNER
- CONTINUOUS DISPLAY
- 1 MINUTE
- ASSESSMENT

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SCORE MENU

MOVE THE MOUSE TO SELECT AND
CLICK THE MOUSE TO CHOOSE

- PREVIOUS MENU
- PRINT SCORES
- RECORD SCORES
- PRINT AND RECORD SCORES

TASK: NUMERIC DISPLAY MATCH
NAME: JOAN
DATE: 02/08/88

INCORRECT CHOICES: 2 8.7%
NON-RESPONSE ERRORS: 0
AVERAGE REACTION TIME: 1.3 SECONDS
POINTS: 1084

DIFFICULTY: BEGINNER
DISPLAY TIME: CONTINUOUS DISPLAY
TIME: 1 MINUTE
MODE: ASSESSMENT

CLICK THE MOUSE TO CONTINUE...

+++++

TASK: NUMERIC DISPLAY MATCH
NAME: Douglas
DATE: 12/02/87

INCORRECT CHOICES: 1 5.6%
NON-RESPONSE ERRORS: 0
AVERAGE REACTION TIME: 2.0 SECONDS
POINTS: 878

DIFFICULTY: BEGINNER
DISPLAY TIME: 5 SECOND DISPLAY
TIME: 1 MINUTE
MODE: ASSESSMENT

+++++

+++++

TASK: NUMERIC DISPLAY MATCH
NAME: Douglas
DATE: 12/02/87

INCORRECT CHOICES: 1 4.8%
NON-RESPONSE ERRORS: 0
AVERAGE REACTION TIME: 1.6 SECONDS
POINTS: 1039

DIFFICULTY: BEGINNER
DISPLAY TIME: 5 SECOND DISPLAY
TIME: 1 MINUTE
MODE: ASSESSMENT

+++++

0

QUESTIONS ANSWERED = 5
NUMBER RIGHT = 5
NUMBER WRONG = 0
PERCENT CORRECT = 100%
0

QUESTIONS ANSWERED = 5
NUMBER RIGHT = 5
NUMBER WRONG = 0
PERCENT CORRECT = 100%

DIFFICULTY: BEGINNER
DISPLAY TIME: CONTINUOUS DISPLAY
TIME: 1 MINUTE
MODE: ASSESSMENT

+++++

+++++

TASK: NUMERIC DISPLAY MATCH
NAME: Tim
DATE: 11/10/87

INCORRECT CHOICES: 0 .0%
NON-RESPONSE ERRORS: 0
AVERAGE REACTION TIME: 2.5 SECONDS
POINTS: 831

DIFFICULTY: BEGINNER
DISPLAY TIME: CONTINUOUS DISPLAY
TIME: 1 MINUTE
MODE: ASSESSMENT

+++++

+++++

TASK: NUMERIC DISPLAY MATCH
NAME: Tim
DATE: 11/10/87

INCORRECT CHOICES: 2 11.8%
NON-RESPONSE ERRORS: 0
AVERAGE REACTION TIME: 2.4 SECONDS
POINTS: 770

DIFFICULTY: BEGINNER
DISPLAY TIME: CONTINUOUS DISPLAY
TIME: 1 MINUTE
MODE: ASSESSMENT

+++++

Exceptional Children and Technology

Activity: Use of computer to create your own story by selecting and combining story parts.

Pilot Site: Student Age/Level of Function/Exceptionality

Age: 6 and above

Level of Functioning: First grade and up

Exceptionality: B/EH, EMH

Subject: Reading and Writing

Skill: To increase word recognition
To create short stories
To read short stories

Correlation: Communication Skills K, 5.1; K, 7.1; K, 8.1
Communication Skills/writing Grade 1, 5.1; Grade 1, 7.1; Grade 1, 8.1

Software: Story Mix 1 - "Ivar" and Story Mix 2 - "At the Zoo", Bertamax (Tarmac)

Hardware: Echo II Speech Synthesizer (optional)

Plan:

Introduction: Teacher explains that students will make their own stories by selecting story parts in the following categories: who was, what, when, and where.

Instruction: In each category mentioned above, students will press the arrow keys and return to select a story part from four choices to create their story. After the story is created, the students can read their story.

Guided Practice: The teacher or the Echo II speech synthesizer may read the choices to the students.

Enrichment/Follow-up: The teacher can make flash cards of the story choices. Students may write their story on paper after creating it on the computer (since you can not print it.)

Helpful Hints: Make a laminated poster of the story parts and choices. As students select story parts, use an overhead marker to mark their choices because students sometimes forget what they chose on previous selections. When the student is finished, wipe off the poster for use with another student.

MICRO
SCHOOL
PROGRAMS

Berta-Max Inc

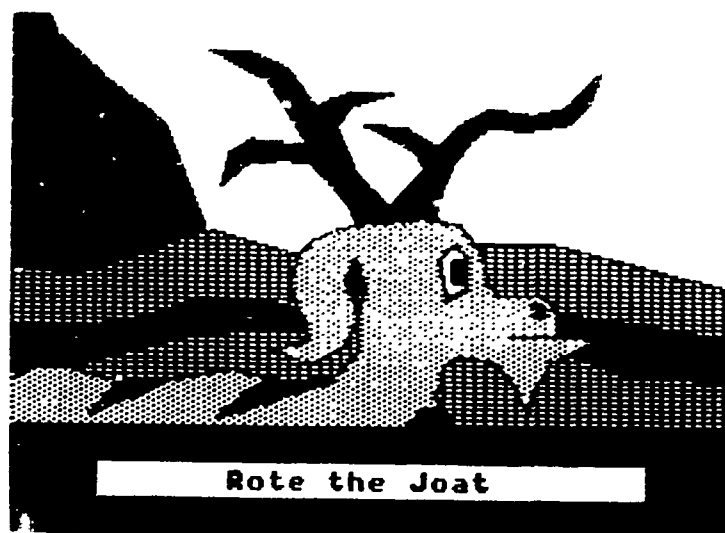
STORY MIX
TWO

WRITTEN BY: Dr. Max Jerwan

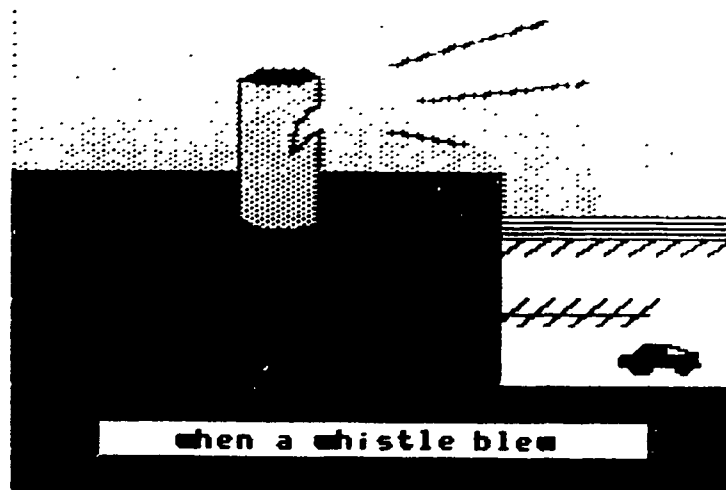
PROGRAMMED BY: Dr. Max Jerwan and John Kropf

CONVERSION BY: Pam Archer, David Lee, and MariEsther Moe

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Exceptional Children and Technology

Activity: Use of computer to create a picture using objects a from pre-stored library and write their own story.

Pilot Site: Student Age/Level of Function/Exceptionality

Age: 6 and above

Level of Functioning: First grade and up

Exceptionality: TMH, EMH, SLD

Subject: Reading and Writing

Skill: To use for language experience
To create a story orally from pictures they create

Correlation:

Communication Skills K, 5.1; K, 7.1; K, 8.1

Communication Skills/writing Grade 1, 5.1; Grade 1, 7.1; Grade 1, 8.1

Software: KIDWRITER, Spinnaker

Hardware: printer

Plan:

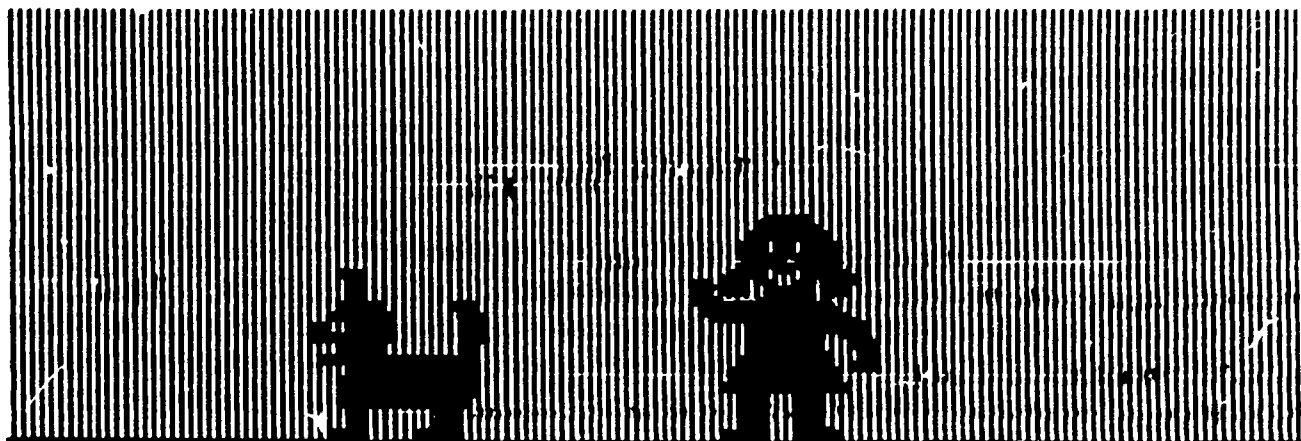
Introduction: Teacher explains that students will create a picture and orally create a story as the teacher types the story. Students may print a picture story to keep.

Instruction: The teacher will show students how to select the background and pictures to be placed in their picture. The color and size of the object may be selected.

Guided Practice: The teacher helps students learn commands to create the picture and story. The teacher makes sure students use all picture objects in their story.

Enrichment/Follow-up: Students need to preplan their picture and story text before using the computer. It is easy to put too many objects in the picture and not have enough room to describe it.

Helpful Hints: This program is designed for students to write their own stories, however, many exceptional children can tell a story and not be able to spell the words. We used it for language experience with the teacher typing the story. After reviewing their printed story several times, they were then able to read their story.



=====

MICHELLE CHASED SNEAKER TOWARD THE
TREES. WHERE WOULD THEIR ADVENTURE END?

Exceptional Children and Technology

Activity: Letter recognition and spelling.

Pilot Site: Student Age/Level of Function/Exceptionality

Age: Grades 1-3

Level of Functioning: Grade 1

Exceptionality: EMH

Subject: Reading/Literature
Spelling

Skill: Letter recognition and spelling

Correlation: 10.2 Recognize letters of the alphabet
Spell appropriate vocabulary

Software: Talking Textwriter

Hardware: Echo Speech synthesizer (optional)
Printer (optional)

Plan: To spell vocabulary words using the microcomputer.

Introduction: Students are given the week's vocabulary on a worksheet.

Instruction: Small groups of students can practice spelling words by using Talking Textwriter. The Echo Speech Synthesizer pronounces words typed into the computer, to check for correct spelling. The group can also make up sentences using their spelling words.

Guided Practice: Students type in spelling words. The computer provides verbal feedback, pronouncing the word correctly if spelled right.

Enrichment/Follow-up: Students make up sentences and stories using the spelling words. They print the stories and illustrate them.

Helpful Hints: Teacher will best know how much assistance to provide students.

Scholastic presents

WRITER

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J. Rosegrant, Russell H. Cooper
Text Talker (TM) Program copyright
(c) 1985, Street Electronics Corp.

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This disk has 112 unused blocks left.

File #	File Name
1	Mary (20-column)
2	Twinkle (20-column)
3	Whoopie (40-column)
4	Spangled (40-column)
5	Casey (80-column)
6	Jabberwocky (80-column)
7	Goats (20-column)
8	Hen (40-column)
9	Jack Part I (40-column)
10	Jack Part II (40-column)

Get file New file Copy file

Mary's Lamb
by Sarah Josepha
Hale

Mary had a little
lamb,
its fleece was
white as snow,

~E)rase line ~R)ecover line ~S)plit line

The Little Red Hen

Once upon a time there was a
little red hen who shared her tiny
cottage with a goose, a cat, and a
dog.

The goose was a gossip. She
chatted with the neighbors all day
long.

The cat was very vain. She
brushed her fur, straightened her
whiskers, and polished her claws all
day long.

The dog was always sleepy. He
napped on the front porch swing all
day long.

~E)rase line ~R)ecover line ~S)plit line

SPELLING

pen I write with
a pen.

ten I have ten
cards.

hen

Did The boy was
big.

He He was
writing.

blue

Michelle

Did, He

Julia
Chris

Shound
Travis

Exceptional Children and Technology

Activity: Using the computer to assist word recognition and meaning.

Pilot Site: Student Age/Level of Function/Exceptionality:

Age: Grades 1-3

Level of Functioning: Grade 2

Exceptionality: EMH

Subject: Reading/Literature
Science/Social Studies

Skill: Word Recognition

Correlation: Reading/Literature 11.1
Recognize, pronounce, and use high frequency words in context.
Recognize terms used in context.

Software: Talking Textwriter

Hardware: Echo Speech synthesizer (optional)
Printer (optional)

Plan: To design study aids related to classroom curriculum.

Introduction: Students take part in classroom discussion on various science or social studies topics. Important facts are highlighted.

Instruction: Simple study guides can be developed on the computer using Talking Textwriter. The Echo Speech Synthesizer can read the information back to the students to reinforce concepts studied in science or social studies. The information can be printed and reproduced for the students.

Guided Practice: Students may work individually on the computer, having study information read back to them by the Echo.

Enrichment/Follow-up: Information on the study guide will be used in assessment of students' retention of the material.

Helpful Hints: The teacher will best know how to word and organize study information so that is most easily understood by students.

Unit 8

Call me

Call my

tell

well

Listen to me.

Please tell me

your name.

Do you feel well?

He will sell his

house.

Please ring the

bell.

It is my ball.

Exceptional Children and Technology

Activity: Using the computer to enhance writing and reading of stories.

Pilot Site: Student Age/Level of Function/Exceptionality

Age: Grades 1-3

Level of Functioning: Grade 1

Exceptionality: EMH

Subject: Reading/Literature

Skill: Writing and reading

Correlation: 4.1 Reading/Literature. Contribute to a group story
4.2 Reading/Literature. "Read" own contribution to a group story
4.3 Reading/Literature. Recognize some sentences or words in a group story/chart

Software: Talking Textwriter

Hardware: Echo Speech synthesizer (optional)
Printer (optional)

Plan: To use composition, reasoning and sequencing skills in developing a group story.

Introduction: A small group of students (10 or less) gather around the computer. The teacher presents an idea or question such as "Lets make up a story about..."

Instruction: Students then contribute to the story as the teacher types in their ideas using Talking Textwriter. The Echo board will read the story back to the students, while they form new ideas. The completed story can then be printed and the students can illustrate it.

Guided Practice: Students provide sentences about a selected topic. After the story is completed and printed, students select vocabulary for study.

Enrichment/Follow-up: Library books can be used to further explain story topics. The story may become part of a unit of study.

Helpful Hints: The story can also be used to build vocabulary using a language experience approach.

Lynnette is my

friend. She likes

to run. You can

be my friend too.



by Julie

Exceptional Children and Technology

Activity: Using the computer to motivate and enhance student writing.

Pilot Site: Student Age/Level of Function/Exceptionality

Age: Grades 1-3

Level of Functioning: Grade 1

Exceptionality: EMH

Subject: Writing

Skill: Composing, writing, and editing

Correlation: 5.2 Writing. Record personal experiences and events
5.2 Writing. Revise selected pieces of information to enhance meaning
5.2 Writing. Edit selected pieces of own writing for capitals, periods, and spelling

Software: Talking Textwriter

Hardware: Echo Speech synthesizer (optional)
Printer (optional)

Plan: To compose sentences and use the microcomputer in word processing

Introduction: Students begin basic word processing by first writing their own sentences in notebooks and with teacher help, editing those sentences.

Instruction: As students become familiar with the microcomputer, individuals type in the sentences they have written, using copying skills.

Guided Practice: After practice with this activity, students are then asked to make up sentences and type them directly into the computer without first writing them down. Printing these stories is a real motivator!

Enrichment/Follow-up: Students use vocabulary in their own stories for instruction in other areas.

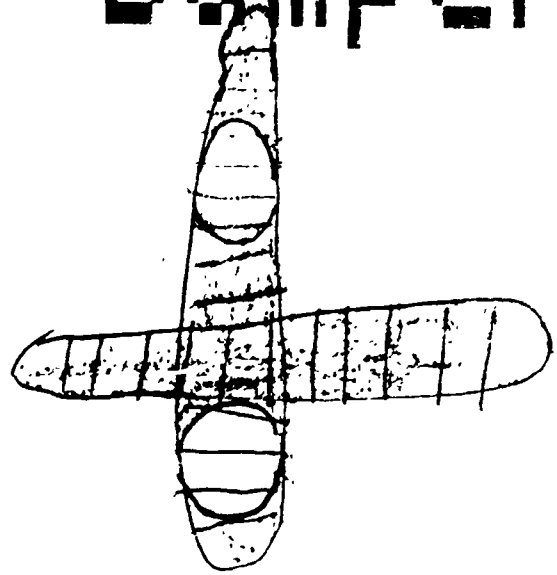
Helpful Hints: Information can be saved on a disk and shared between classrooms.

I liked the fair.

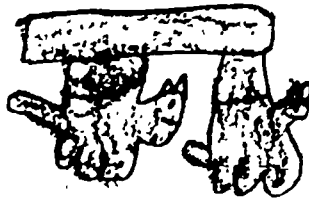
I rode on the
airplane. I went
to the circus.

I saw two dragons.

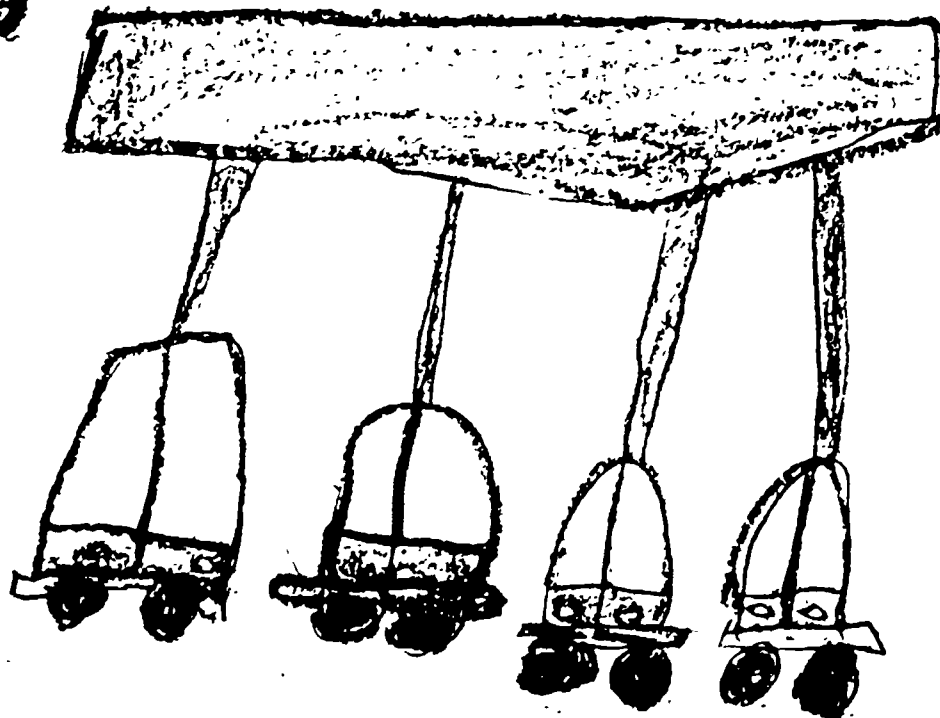
I saw two bumper
cars .



I saw a rabbit.



by Julia



SAMPLE LESSON PLAN

Exceptional Children and Technology

Activity:

Pilot Site: Student Age/Level of Function/Exceptionality:

Subject:

Skill(s):

Basic Education Program Correlation:

Software:

Hardware:

Plan:

Introduction:

Instruction:

Guided Practice:

Enrichment/Follow-up:

Helpful Hints:

SUGGESTED MANAGEMENT FORMAT

Computer Log

Teacher: _____

Assistants: _____

Date: _____

Student(s): _____

Class: _____

Grade: _____

Software Title:

Peripheral Used:

Skill taught by software:

IEP/BEP Objective:

Description of Instructional Activity:

Follow-Up:

Student Reaction:

Computer Log

Teacher: _____

Assistants: _____

Date: _____

Student(s): _____

Class: _____

Grade: _____

Software Title:

Peripheral Used:

Skill taught by software:

IEP/BEP Objective:

Description of Instructional Activity:

Follow-Up:

Student Reaction:

Computer Log

Sample Entry

Teacher: Jones
Assistants: Wells/McFarlane
Date: Anytime, 1987

Student(s): Robert Winston
Class: _____
Grade: _____

Software Title: Paint with Words

Peripheral Used: Printer

Skill taught by software: To increase word recognition through reinforcement.

IEP/BEP Objective: To increase word recognition.

Description of Instructional Activity:

The student was allowed to select a word group and background of interest. They "painted" the picture using their own creativity with placement of words. They printed their picture.

Follow-up: We made flash cards from the word group that each student chose. Each student was also asked to create a story from the picture that they "painted."**

Student Reaction: Robert needed a lot of encouragement to use his imagination. He chose only to describe what and where everything was. Robert needs repetition of word list daily.

**A folder is being kept on each student containing pictures and word lists and a daily log recording the individual progress of each student.

SELECTED SOFTWARE LISTING

EXCEPTIONAL CHILDREN AND NEW TECHNOLOGY

SELECTED SOFTWARE LISTING

<u>Software</u>	<u>Vendor</u>	<u>Price</u>	<u>Function</u>	<u>Area</u>
Muppet Word Book ¹	Sunburst	\$59.00 1422-GR	Data Entry Alternative	Reading Readiness
Type to Learn ¹	Sunburst	\$69.00 1490-GR	Data Entry	Keyboarding
Magic Slate ²	Sunburst	\$99.95 1133-GR	Visual/ Touch	Writing
Talking Text Writer ²	Sunburst	\$149.95	Sound	Writing Readiness
Talking Writer ²	Cross	\$24.95	Sound Visual	Writing
Print Shop ²	Broderbund	\$49.95	Visual	Reading Composition
Kid Writer ²	Spinnaker	\$34.95	Visual	Writing
Sticky Bear ²	Optimum	\$39.95	Visual	Writing
Printer Numbers	Optimum	\$39.95	Visual	Mathematics
ProWORDS ²	Access Unlimited	\$195.00	Visual	Writing
Early Childhd Readiness Order/Sequencing	Aquarius	\$115.00 \$29.95ea		Reading Readiness
Sound Ideas ³ Vowels(5 disks) Consonants	Houghton	\$156.00	Sound Echo	Structural Analysis
Hint and Hunt ³	DLM	\$99.00 L5300P	Sound Echo II	Structural Analysis

Verb Viper ³	DLM L2100P	\$46.00 Echo I'	Sound Analysis	Structural
Construct a Word I ³	DLM	\$99.00 L5500P	Sound Echo II	Structural Analysis
Syllasearch I ³	DLM	\$99.00 L4500P	Sound Echo	Structural Analysis
Memory Building Blocks ⁴	Sunburst	\$59.00 1534-GK	Touch Window	Reading Readiness
Simon Says ⁴	Sunburst	\$59.00 1625-GK	Touch Window	Reading Readiness
Odd-One-Out ⁴	Sunburst	\$59.00 1076-GK	Touch Window	Reading Readiness
Comic Strip Maker ¹ (School Edition)	Disney	\$39.95		Reading Readiness
Paint With Words ²	MECC	\$49.00 A158-501	Sound	Reading Readiness
Brainz Builder One	Banium- Dunbar	\$95.00	Sound	All
Speedway Math	MECC A169-501	\$49.00		Mathematics
Captain	Cognitive Training System	\$200.00		Cognitive
Story Mix, I, II	Bertamax	\$34.80 each		Reading

Code

1= Data Entry

2=Word Processing

3=Sound

4=Touch

5=Authoring System

Vendors Addresses

Access Unlimited, Speech Enterprises
10622 Fairlane Drive
Houston, Texas 77024
(713) 461-1666

Banium-Dunbar
6427 Hillcrest
Houston, Texas 77081
(703) 988-0887

Broderbund
17 Paul Drive
San Rafael, California 94903-2101
(415) 492-3200

Cognitive Training Systems
Network Services
1915 Hugenot Road
Richmond, Virginia 23235
(804) 373-2253

Houghton-Mifflin
P.O. Box 683
Hanover, New Hampshire 03755
1-800-258-9773

Optimum Resource, Inc
Norfolk, Connecticut 06058
542-5553

Spinnaker
1 Kendall Square
Cambridge, Massachusetts 02139
(617) 548-0759

Walt Disney
Educational Media
108 Wilmot Road
Deerfield, Illinois 60015
1-800-621-2131

Aquarius
P.O. Box 128
Indian Rock Beach, Florida 33535
(813)-595-7890

BertaMax
3647 Stoneway North
Seattle, Washington 98103
(206) 547-4056

Cross Educational Software
1802 N. Trenton Street
Ruston, Louisiana 71270
(318) 255-8921

DLM Teaching Resources
P.O. Box 4000
One DLM Park
Allen, Texas 75002
1-800-527-4747

MECC
3490 Lexington Avenue, North
St. Paul, Minnesota 55126
(612) 481-3500

Scholastic
P.O. Box 7502, 2931 East McCarty Street (203)
Jefferson City, Missouri 65102
1-800-325-6149

Sunburst
30 Washington Avenue
Pleasantville, New York 10570
1-914-769-5080

Devices/Software

Sound/Speech Echo II+	Vendor Street Electronics 1140 Mark Ave Carpinteria, CA 93013 1-805-684-4593	Cost \$149.95
	Tarmac 71 N. Market Street Asheville, NC 28108 1-800-222-08270	
Visual/Tactile Touch Window	Sunburst 30 Washington Ave Pleasantville, NY 10570 1-914-769-5080	\$199.95
	Tarmac 71 N. Market Street Asheville, NC 28108 1-800-222-08270	
Keyboard/Data Entry Muppet Keys	Sunburst 30 Washington Ave Pleasantville, NY 10570 1-914-769-5080	\$79.95

*requires minimum of 128K

PROFESSIONAL RESOURCES

EXCEPTIONAL CHILDREN RESOURCES

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Division of Computer Services
Media and Technology Services
N. C. Department of Public Instruction
Raleigh, North Carolina 27603-1712

Typing Tutors

Product Name

Price

Coinsnkeys	\$45.00		
Cashe Special Computer Services, Inc.	505-283-8378	9801 San Gabriel N E	Albuquerque NM 87111
*CompuKeys Keyboarding Series	\$39.95		
CompuKeys, Inc. + management (300 kds)	812-841-0038	P.O. Box 8142	St. Paul MN 55108
Computer Software for the Exceptional Communicator Skill Builders	\$99.95		
	802-323-7500	P.O. Box 42050	Tucson AZ 85733
Jr. Typer	\$45.00 (two)		
Aquarius People Manuals, Inc.	813-885-7890	P.O. Box 128	Indian Rocks Beach FL 33535
Key-Words: Special Ed Version	\$49.00		
Humanities Software	213-402-8231	P.O. Box 590727	San Francisco CA 94159
Keyboard Command	\$34.95		
Compu-Tations, Inc.	313-888-5059	P.O. Box 502	Troy MI 48069
Keyboarder	\$29.95		
Sunset Software	213-478-1245	11750 Sunset Blvd., Ste	Los Angeles CA 90048
Keys to Success: Computer Keyboard Skills	\$35.00		
Lit Science Associates	516-472-2111	1 Fenmore Rd.	Bayport NY 11705
KINDERKEYBOARD	\$34.95		
EBSCO Curriculum Materials	205-991-8800-Ex:208	Box 1843	Birmingham AL 35201
KRS: Keyboarding/Reading/Spelling	\$180.00		
Instructional Communication Technology, Inc.	516-548-3000	10 Stepan Place	Huntington Station NY 11746
Letter Recognition	\$29.95		
Hartley Courseware, Inc.	517-848-8458	P.O. Box 431	Dimondale MI 48821
Mastertype	39.95;		
Scarborough Systems, Inc.	914-332-4545	55 S Broadway	Tarrytown NY 10591
Software for Visually Impaired Children	\$50.00 (plus)		
Sensory Aids Corp.	312-788-3935	206 W Grand Ave., Ste. 110	Bensenville IL 60108
*Talking Writer <i>writes w/ Echo</i>	\$24.95		
Cross Educational Software	318-255-8921	1802 N Trenton St., P.O.	Ruston LA 71270
Type to Learn	\$69.00		
Sunburst Communications	814-788-5030	39 Washington Ave.	Pleasantville NY 10570
Type-Talk	\$49.95		
Lorin Software	713-481-1887	P.O. Box 7986	Houston TX 77270
Typemaster	\$80.00		
M.D. Fuller & Associates	408-987-1114	1132 Via Jose, Ste D	San Jose CA 95120
Typing Teacher	\$19.95		
Compu-Tations, Inc.	313-888-5059	P.O. Box 502	Troy MI 48069
Typing Well	\$49.95		
Learning Well	516-821-1540	200 S. Service Rd	Roslyn Heights NY 11577

Word Processing

Product Name

Price

Abbreviation/Expansion	\$75.00		
Zygo Industries, Inc.	503-287-1724	P.O. Box 1008	Portland OR 97207
Bank Street Storybook	\$49.95		
Mindscape, Inc.	312-480-7887	3444 Dundee Rd	Northbrook IL 60062
Bank Street Writer	\$69.95		
Broderbund Software, Inc.	415-475-1700	17 Paul Dr	San Rafael CA 94903
BE A WRITER	\$40.00		
Sunburst Communications	814-738-5030	39 Washington Ave	Pleasantville NY 10570
DEX (BRAILLE-EDIT Xpress)	\$400.00		
Raised Dot Computing, Inc.	808-257-8585	408 S. Baldwin St	Madison WI 53703
BRAILLE-EDIT	\$300.00		
dot Computing, Inc.	808-257-8585	408 S. Baldwin St.	Madison WI 53703

Creative Writer

Activision, Inc

\$49.95,

415-880-0410

Drawer 7286

Mountain View CA 94039

Format II

Kenington Microwave Ltd

\$150.00

212-475-5200

251 Park Ave S

New York NY 10010

French Kidwriter

Greiner Educational Software

\$37.95

212-873-3113

900 Br. adway

New York NY 10003

Helpful Writer

Learnco, Inc

\$49.95

603-778-0813

Box L

Exeter NH 03833

I CAN WRITE

Sunburst Communications

40.00

914-769-5030

39 Washington Ave

Pleasantville NY 0570

Kurzweil Reading Machine Software

Kurzweil Reading Machine

\$19,800.00

185 Albany St

Cambridge MA 02139

Large Print Typesetting Program

Kinetic Designs, Inc.

\$205.00

206-565-8727

4113C Bridgeport Way

Tacoma WA 98406

Let's Explore Word Processing

Media Materials, Inc.

\$39.95

301-234-1700

2936 Remington Ave.

Baltimore MD 21211

*** Magic Slate**

Sunburst Communications

99.95

914-769-5030

39 Washington Ave.

Pleasantville NY 10570

Magic Window II

Artsci, Inc.

\$149.95

818-986-2922

5547 Salsuma Ave.

N Hollywood CA 91601

Map Writer

Hugh MacMillan Medical Centre

not available

416-425-8220

350 Rumsey Rd

Toronto ON M4G 1R8

Peachy Writer Bold

Cross Educational Software

\$24.95

318-255-8921

1802 N Trenton St., P.O. Box Ruston LA 71270

*** ProWORDS**

Access Unlimited - SPEECH Enterprises

\$195.00

713-481-1888

10622 Fairlane Dr

Houston TX 77024 77024

Study Buddy

Ed Marquette

\$40.00

713-481-1888

P.O. Box 7986

Houston TX 77270

Talking Writer

Cross Educational Software

\$24.95

318-255-8921

1802 N. Trenton St., P.O. Box Ruston LA 71270

The Logo Project Book: Exploring Words and

Terrapin, Inc.

\$19.95

617-492-8616

222 Thrd St.

Cambridge MA 02142

The Newsroom

Springboard Software, Inc

\$59.95;

612-844-3915

7808 Creekridge Circle

Minneapolis MN 55435

The Works! A Complete Collection of Home

First Star Software, Inc

\$49.95

212-832-4888

18 E. 41st

New York NY 10017

TranscriBEX

Raised Dot Computing, Inc.

\$500.000

608-257-8595

408 S. Baldwin St.

Madison WI 53703

Word-Talk

Computer Aids Corporation

\$195.00 -

219-422-2424

124 W. Washington, Ste 220 Fort Wayne IN 46802

Work-Station

Computer Aids Corporation

\$295.00

219-422-2424

124 W. Washington, Ste 220 Fort Wayne IN 46802

Authoring Systems

Product Name**Price****Alien Action****\$44.00**

One DLM Park

Allen TX 75002

DLM Teaching Resources

214-248-6300

Author (The)**\$195.00**

324 Main St., Ste 1

Stillwater MN 55082

Raptor Systems, Inc.

612-430-2980

Automatic Test Author (ATA)**\$89.95**

330 New Brunswick Ave

Fords NJ 08863

Resource Software International, Inc

201-738-8500

Bainum Dunbar Brainz**\$230.00**

6427 Hilcrest, Ste 133

Houston TX 77061

Bainum Dunbar, Inc

713-888-0867

Bank Street Storybook**d\$49.95**

3444 Dundee Rd

Northbrook IL 60062

Maple, Inc.

312-480-7867

Brainz-Gamz Barum Dunbar, Inc.	\$79.95 713-966 0867	6427 Hillcrest, Ste 133 Houston TX 77061
Campaign Math MindPlay c/o Methods and Solutions, Inc	\$39.29 617-438-5454	62 Montvale Ave Stoneham MA 02180
Cat'n Mouse MindPlay c/o Methods and Solutions, Inc	\$39.99 617-438-5454	62 Montvale Ave Stoneham MA 02180
Cognitive Rehabilitation Series Hartley Courseware, Inc	\$595.00, 517-646-6458	P.O. Box 431 Dimondale MI 48821
Control Without Keyboards J Jordan Associates	\$299.00 414-739-6269	1127 Oxford Ct Neenah WI 54956
Crossword Magic Mindscape, Inc.	\$59.95 312-480-7667	3444 Dundee Rd. Northbrook IL 60062
DPS with HELP or BCP VORT Corporation	\$195.00 415-322-6282	P.O. Box 60132 Palo Alto CA 94306
E-Z Pilot Hartley Courseware, Inc	\$79.95 517-646-6458	P.O. Box 431 Dimondale MI 48821
EZ Pilot for the PowerPad Dunamis, Inc.	\$29.95 404-476-4934	2866 Buford Hwy. Duluth GA 30136
Flexiscan Expert Systems Software, Inc.	\$39.95 615-298-4397	823 Van Leer Dr. Nashville TN 37220
Idea Invasion DLM Teaching Resources	\$44.00 214-248-6300	One DLM Park Allen TX 75002
Kennedy Handi-Math Program Kennedy Memorial Hospital	\$100.00 617-254-3600	30 Warren St Brighton MA 02135
Kid Bits Words Fair Potomac MicroResources, Inc.	\$49.00 301-299-2177	P.O. Box 277 Riverdale MD 20737
Learning Box (The) M D Fuller & Associates	\$50.00 408-997-1154	1132 Via Jose, Ste D San Jose CA 95120
Microinstructor C.V. Mosby Company	\$995.00 314-672-8370	11630 Westline Industrial St Louis MO 63146
Passport: The Courseware Creator Gessler Educational Software	\$195.00 212-673-3113	900 Broadway New York NY 10003
PII (Personal Information for Independence) Southern Micro Systems	\$49.00 919-226-7610	P.O. Box 2097 Burlington NC 27216-2097
ProWORDS Access Unlimited - SPEECH Enterprises	\$195.00 713-461-1666	10622 Fairlane Dr Houston TX 77024 77024
Talking Public Domain Software The Communicator Publishers	\$5.00 (each) 703-766-3869	Rt. 4, Box 263 Hillsville VA 24343
The Newsroom Springboard Software, Inc	\$59.95; 612-944-3915	7808 Creekridge Circle Minneapolis MN 55435
Visual/Perceptual Diagnostic Testing & Educational Electronic Technologies, LTD	\$650.00 516-221-4173 (NY)	1688 Wantagh Ave Wantagh NY 11793
Vocabulary Prompter Jegdstell Software	\$29.95 408-576-1643	645 Brenda Lee Dr San Jose CA 95123
Wiz Works DLM Teaching Resources	\$44.00 214-248-6300	One DLM Park Allen TX 75002

Alternative Keyboards

Product Name	Price		
ACS SpeechPAC/Epson with Photo Board and Adaptive Communication Systems, Inc.	\$3,995.00 412-284-2288	Box 12440	Pittsburgh PA 15231
ACS SpeechPAC/Epson with Unicorn Board* Adaptive Communication Systems, Inc.	\$2,890.00 412-284-2288	Box 12440	Pittsburgh PA 15231
ACS SpeechPAC/Epson* Adaptive Communication Systems, Inc.	\$2,995.00 412-284-2288	Box 12440	Pittsburgh PA 15231
ACS SpeechPAC/ScanPAC/Epson* Adaptive Communication Systems, Inc.	\$3,695.00 412-284-2288	Box 12440	Pittsburgh PA 15231
AICES* ADAMLAB	\$150.00 313-487-1415	33500 Van Born Rd	Wayne MI 48184
Computer Entry Terminal Prentke Romich Co.	\$1,492.00 216-282-1984	1022 Heyl Rd.	Wooster OH 44691
Dvorak One Handed Keyboard Typewriting Institute for the Handicapped	\$650.00 802-838-5344	3102 W. Augusta Ave.	Phoenix AZ 85051
Expanded Keyboard Model 1 Unicom Engineering Co.	\$295.00 416-428 1628	6201 Harwood Ave	Oakland CA 94618
Expanded Keyboards for the Adaptive EKEG Electronics Co. LTD.	\$250.00 (44) 604-273-4368	P.O. Box 46199, Sta. G	Vancouver BC V6R 4G5
Expanded Keyboards for Trace Center's EKEG Electronics Co. LTD.	\$950.00 604-273-4368	P.O. Box 46199, Sta. G	Vancouver BC V6R 4G5
Expanded Pressure Sensitive Keyboards* Cacti Computer Services	\$720.00 204-857-8876	130 9th St., S.W.	Portage la Paine BC R1N 2N4
EyeTyper (The) Sentient Systems Technology, Inc.	\$2,995.00 412-882-0144	5001 Baum Blvd.	Pittsburg PA 15213
Flexcom (The)* Furalltech Systems, Inc.	\$1,495.00 319-828-8101	P.O. Box 190	N. Liberty IA 52358
KEASYBOARD Parallel Systems, Co.	\$750.00 604-943-8769	P.O. Box 58435	Vancouver BC V6P 8K2
King Keyboard TASH Inc. (Technical Aids & Systems for the Handicapped)	\$975.00 416-478-2212	70 Gibson Dr., Unit 12	Markham ON L3R 4C2
Light Talker Prentke Romich Co.	\$2,550.00 216-282-1984	1022 Heyl Rd	Wooster OH 44691
Membrane Keyboard TASH Inc. (Technical Aids & Systems for the Handicapped)	\$600.00 416-478-2212	70 Gibson Dr., Unit 12	Markham ON L3R 4C2
Mini Keyboard TASH Inc. (Technical Aids & Systems for the Handicapped)	\$225.00 416-478-2212	70 Gibson Dr., Unit 12	Markham ON L3R 4C2
Remote Keyboard for the Apple IIe, II+ EKEG Electronics Co LTD	\$750.00 604-273-4368	P.O. Box 46199, Sta. G	Vancouver BC V6R 4G5
Ten Key Board (The)* EKEG Electronics Co. LTD.	\$350.00, 604-273-4368	P.O. Box 46199, Sta. G	Vancouver BC V6R 4G5
TOUCH TALKER Prentke Romich Co.	\$1,955.00 216-282-1984	1022 Heyl Rd	Wooster OH 44691

Keyboard Emulators

Product Name	Price		
Adaptive Firmware Card Adaptive Peripherals, Inc.	\$400.00 208-833-2810	4528 Bagley Ave N.	Seattle WA 98103

AICES* ADAMLAB	\$150.00 313-467-1416	33600 Van Born Rd	Wayne MI 48184
Compuadapter* RM Systems, Inc.	\$1,300.00 213-534-1880	22803 Fern Ave.	Torrance CA 90505
EyeTyper (The) Sentient Systems Technology, Inc.	\$2,995.00 412-882-0144	6001 Baum Blvd.	Pittsburg PA 15213
Flexcom (The)* Furutech Systems, Inc.	\$1,495.00 318-626-8101	P.O. Box 190	N. Liberty IA 52358
ICMM Intex Micro Systems Corp.	\$2,495.00 313-540-7801	725 S. Adams Rd., Ste. L-8	Birmingham MI 48011
Keyboard Interface for the Apple II, IIC, IIE, \$275.00-37 Prentke Romich Co.	\$275.00-37 218-262-1884	1022 Heyl Rd.	Wooster OH 44691
Micro-DEC II* Medical Equipment Distributors, Inc.	\$1,886.00	3223 S. Loop 288, Ste. 150	Lubbock TX 79423
MOD TASH Inc. (Technical Aids & Systems for the Handicapped)	\$230.00 418-476-2212	70 Gibson Dr., Unit 12	Marlham ON L3R 4C2
scanWRITER Zygo Industries, Inc.	\$4,000.00 503-297-1724	P.O. Box 1008	Portland OR 97207
SpeechAid Intex Micro Systems Corp.	\$2,495.00 313-540-7801	725 S. Adams Rd., Ste. L-8	Birmingham MI 48011
TETRAscan II Zygo Industries, Inc.	\$2,050.00 503-297-1724	P.O. Box 1008	Portland OR 97207
Words+ Living Center III Words+, Inc.	\$2,667.00- 408-730-9588	1126 Stewart Ct., Ste. D	Sunnyvale CA 94088
ZYGO Model 100 Communication Zygo Industries, Inc.	\$1,750.00 503-297-1724	P.O. Box 1008	Portland OR 97207

Game Port Input

Product Name	Price		
Adaptive Firmware Card Adaptive Peripherals, Inc.	\$400.00 206-633-2612	4529 Bagley Ave N	Seattle WA 98103
Apple Computer Input Adapter Steven E. Kanor, Ph.D. Inc.	\$40.00 914-478-0880	6 Main St.	Hastings on Hudson NY 10706
Apple IIE Joystick Input Adapter* Life Science Associates	\$89.00	1 Fenimore Rd.	Sayport NY 11705
E-Z Port Plug Versa Computing, Inc.	\$24.95 805-498-1958	887 Conestoga Circle	Newbury Park CA 91320
Koala Pad Koala Technologies, Inc.	\$79.95 408-435-8883	2085 Junction	San Jose CA 95131
Muppet Learning Keys Sunburst Communications	\$70.95 914-789-5030	38 Washington Ave.	Pleasantville NY 10570
PowerPad Dunamis, Inc.	\$99.95 404-476-4934	2856 Buford Hwy	Duluth GA 30136
Regensis Breath Switch Regensis	\$150.00	451-810 West Broadway	Vancouver BC V5Z 4C5
Scooter Zero Force Game Ports OHM Electronics	\$22.50	748 Vermont St.	Peatone IL 60067
Switch Interface Don Johnston Developmental Equipment, Inc.	\$34.50 312-438-3476	900 Winnetka Ter.	Lake Zurich IL 60047
Switch Interface for Apple IIC and IIE Prentke Romich Co.	\$43.00 218-262-1884	1022 Heyl Rd.	Wooster OH 44691

Switch Interface for the Apple II, IIe, II+ \$72.00

Prentice Romich Co.

218-282-1984

1022 Heyl Rd

Wooster OH 44691

TouchWindow

\$199.95-\$2

Personal Touch Corporation

408-248-8822

4320-290 Stevens Creek

San Jose CA 95129

Words+ Living Center III

\$2,667.00-

Words+, Inc.

408-730-9588

1125 Stewart Ct., Ste. D

Sunnyvale CA 94086

Dedicated Communicators

Product Name

Price

ACS SpeechPAC/Epson with Photo Board and \$3,995.00

Adaptive Communication Systems, Inc.

412-284-2288

Box 12440

Pittsburgh PA 15231

ACS SpeechPAC/Epson with Unicorn Board* \$2,890.00

Adaptive Communication Systems, Inc.

412-284-2288

Box 12440

Pittsburgh PA 15231

ACS SpeechPAC/Epson*

\$2,995.00

Adaptive Communication Systems, Inc.

412-284-2288

Box 12440

Pittsburgh PA 15231

ACS SpeechPAC/ScanPAC/Epson*

\$3,695.00

Adaptive Communication Systems, Inc.

412-284-2288

Box 12440

Pittsburgh PA 15231

EyeTyper (The)

\$2,995.00

Sentient Systems Technology, Inc.

412-682-0144

5001 Baum Blvd.

Pittsburg PA 15213

ICOMM

\$2,495.00

Intex Micro Systems Corp.

313-540-7801

725 S. Adams Rd., Ste. L-8

Birmingham MI 48011

Light Talker

\$2,550.00

Prentice Romich Co.

218-282-1984

1022 Heyl Rd.

Wooster OH 44691

scanWRITER

\$4,000.00

Zygo Industries, Inc.

503-297-1724

P.O. Box 1008

Portland OR 97207

SpeechAid

\$2,495.00

Intex Micro Systems Corp.

313-540-7801

725 S. Adams Rd., Ste. L-8

Birmingham MI 48011

TOUCH TALKER

\$1,955.00

Prentice Romich Co.

218-282-1984

1022 Heyl Rd.

Wooster OH 44691

ZYGO Model 100 Communication

\$1,750.00

Zygo Industries, Inc.

503-297-1724

P.O. Box 1008

Portland OR 97207

Echo and Cricket Compatible Software

The following companies publish software which is compatible with the Echo, the Cricket, or both. Consult the individual developers for system requirements.

This is not a definitive list. It represents those Echo developers we were aware of as of March 17, 1987.

EDUCATIONAL SOFTWARE

AIMS Media
6901 Woodley Avenue
Van Nuys CA 91406
(818) 785-4111

Sam's Store (Math)
Getting Started in... Series

Ballard & Tighe, Inc.
480 Atlas Street
Brea CA 92621
(714) 990-4332

IDEA Cat, Elephant Ears

Bertamax
3647 Stone Way North
Seattle WA 98103
(206) 547-4056

18 different titles

C.C. Publications
P.O. Box 23699
Tigard OR 97062
(503) 692-6880

The Ollie Hears Series,
Basic Language Series

Chatterbox
2265 Westwood Blvd. Suite 9
Los Angeles CA 90064
(800) 531-5314

Voice Reading, Voice English

Communication Skill Builders
3130 North Dodge Blvd.
Tucson AZ 85733
(602) 323-7500

Idioms in America
ESL

Computer Tutor
1543 Avenue K
Plano TX 75074
(800) 442-4719

ESL

DLM Teaching Resources
One DLM Park
Allen TX 75002
(214) 248-6300

Syllasearch, Construct-A-Word
Hint and Hunt

Developmental Equipment
900 Winnetka Terrace
Lake Zurich, IL 60047

Numerous special education software
titles

EDUCATIONAL SOFTWARE (cont.)

Early Learning, Inc.
P.O. Box 712
Devon PA 19333
(215) 687-1331

Kindermath

Edmark Corporation
P.O. Box 3903
Bellevue WA 98009
(206) 746-3900

Edmark Reading Program

Educational Activities
1937 Grand Avenue
Baldwin, NY 11510
(516) 223-4666

Adult Literacy

Electronic Arts
2755 Campus Drive
San Mateo CA 94403

Music Construction Set (Echo+ or Cricket)
Adventure Construction Set (Cricket only)

Hartley Courseware
P.O. Box 419
Diamondale MI 48821
(800) 247-1380

Easy Pilot (authoring language)
Dr. Peet's Talk Writer,
My Words

HCCCP/Sherwood Center
7938 Chestnut
Kansas City MO 64132
(816) 363-4606

Color Find
Letter Find
Prepositions
Sight Word Spelling

Houghton Mifflin
P.O. Box 683
Hanover NH 03755
(603) 448-3838

Sound Ideas Series

Laureate Learning
110 East Spring Street
Winooski VT 05404
(802) 655-4755

Speak Up, FAST, ACE,
First Words, MicroLADS,
First Categories

Life Science Associates
1 Fenimore Road
Bayport, NY 11705
(516) 472-2111

Arithmetic 1, 2, and 3

Marblesoft
21805 Zumbrota Street NE
Cedar MN 55011
(612) 434-3704

Early Learning I, II,
Mix 'n Match

EDUCATIONAL SOFTWARE (cont.)

Microcomputer Applications
RD#2, Box 229
Selinsgrove PA 17870

PEAL Software
2210 Wilshire Blvd., #806
Santa Monica CA 90403
(213) 451-0997

Polytel
2727 E. 21st Street, Suite 600
Tulsa OK 74144

Research Triangle Software
P.O. Box 13044
Research Triangle Park NC 27709
(919) 851-0866

Scholastic Software
730 Broadway
New York NY 10003
(212) 505-3000

SEI
111 Fielding Lewis Drive
Grafton VA 23692

Sensible Software, Inc.
210 S. Woodward, Suite 229
Birmingham MI 48011
(313) 258-5566

Southwest Ed-Psych Services
P.O. Box 1870
Phoenix, AZ 85001
(602) 253-6528

Goldilocks and the Three Bears

Keytalk
Exploratory Play
Early Education
Representational Play

The Farm, Safari
Requires Polytel Keyport 717

Wordmaster

Talking Screen: Text Writer -
Early Education
Talking Word Processor

Master Talker
SAT drill and other High
School level programs.

Talking Sensible Speller

Tic-Tac-Spell

SPECIAL NEEDS SOFTWARE

Adaptive Peripherals, Inc.
4529 Bagley Avenue North
Seattle WA 98103
(206) 633-2610

CITE
215 E. New Hampshire Avenue
Orlando FL 32804
(305) 299-5000 X3291

Castle Special Computer Services
9801 San Gabriel, NE
Albuquerque NM 87111
(505) 293-8379

Closing the Gap
P.O. Box 68
Henderson MN 56044
(612) 248-3294

Computability
101 Route 46 East
Pine Brook NJ 07058
(201) 882-0171

The Conover Company
P.O. Box 155
Omro WI 54963
(414) 685-5707

David R. Beukelman, Ph.D.
University of Nebraska-Lincoln
318 Barkley Memorial Ctr.
Lincoln NE 68583-0738
(402) 472-5463

Dunamis
2856 Buford Highway
Duluth GA 30136
(404) 476-4934

Educational Software Review
1400 Shattuck Avenue, Suite 774
Berkeley CA 94709
(415) 528-2788

HCCCP/Sherwood Center
7938 Chestnut
Kansas City MO 64132
(816) 363-4606

The Talking Word Board.
The Talking Scanner
The Talking Unicorn

Augmentative
communication program

Spellist, Coins 'n Keys

Special Needs Resource

Power Pad Programmer

Nuts & Bolts
SAID
Survival Words

Publishes a communication
program.

SimpleCom I, SimpleCom II

Magic Music Teacher
(requires Echo+ or Cricket)

Color Find
Letter Find
Prepositions
Sight Word Spelling

SPECIAL NEEDS SOFTWARE (cont.)

Hugh MacMillan Medical Centre
350 Rumsey
Toronto, ON
CANADA M4G 1R8
(416) 425-6220

Augmentative software for children

Laureate Learning
110 East Spring Street
Winooski VT 05404
(802) 655-4755

Speak Up, FAST, ACE,
First Words, MicroLADS,
First Categories

Project ACTT
27 Horrabin Hall
Western Illinois University
Macomb IL 61455
(309) 298-1634

Peek and Speak

R.J. Cooper & Associates
24843 Del Prado, Suite 283
Dana Point, CA 92629
(714) 240-1912

Point to Pictures Series

Schneier Communication Unit
1603 Court Street
Syracuse NY 13208
(315) 455-7591

Quick Talk, Sound Match,

Speech Enterprises/Access Unltd.
9039 Katy Freeway, Suite 414
Houston TX 77024
(713) 461-0006

Resource for Special Needs

SOFTWARE FOR THE BLIND/VISUALLY IMPAIRED

American Printing House f/t Blind
P.O. Box 6085
Louisville KY 40206-0085
(502) 895-2405 x315

Apple Talk
3015 South Tyler
Little Rock AR 72204
(501) 666-6552

Area Education Agency 6
210 South 12th Avenue
Marshalltown IA 50158
(515) 752-1578

Bainum Dunbar Inc.
P.O. Box 742028
Houston TX 77274
(713) 988-0887

Bible Research Systems
2013 Wells Branch Parkway, #304
Austin TX 78728
(512) 251-7541

Bucks County Schools
Routes 611 & 313
Doylestown PA 18901
(215) 757-0227

Carriere Systems
519 Valley Forge Drive
Placentia CA 92670
(714) 524-1488

Ciderware
1019 Martinique
Dallas TX 75223-1445
(214) 827-7734

CITE
215 E. New Hampshire Avenue
Orlando FL 32804
(305) 299-5000 X3291

Computer Aids Corporation
124 West Washington, Lower Arcade
Fort Wayne IN 46802
(219) 422-2424

Speaking Speller
Elementary Math
Talking Games

Utility Talk, Trivia Talk,
TextWriter, Fortune Talk,
Fitness Talk. Publishes
"Apple Talk" newsletter on disk.

Southern Prairiesoft Word
Tutor

Brainz Gamz

Publishes the Bible on
ECHO-readable disks.

Talking...(Typing, Spelling,
Math, Place Value, Flash
Cards), TextTutor, Language
Board (requires Muppet Keyboard)

Check Book Budgeting,
Glossary, Addresses

Call Talker - Spreadsheet
Lister Talker - File Manager
Ledger Talker - Bookkeeper

Augmentative communication
program

Word-Talk, Calc-Talk,
Braille-Talk, Screen Talk,
Talking Transend

SOFTWARE FOR THE BLIND/VISUALLY IMPAIRED (cont.)

Criterion Micro Soft
P.O. Box 847
Iowa City IA 52244
(391) 338-8669

Word Mentor

Cross Educational Software
1802 N. Trenton
Ruston LA 71720
(318) 255-8921

Talking Writer, Talking
Riddles

Howard K. Traxler
6504 W. Girard Avenue
Milwaukee WI 53210
(414) 445-5925

Trax Pax, Checkbook,
Filebox

Keith Creasey
1956 Mellwood Avenue
Louisville KY 40206
(502) 896-0132

Personal finance programs.

Lorin Software
365 Brassie
Orlando FL 32804
(305) 423-7547

Type-Talk, Talking typing
Tutor

Raised Dot Computing, Inc.
408 S. Baldwin Street
Madison WI 53703
(608) 257-9595

Braille-Edit

Read-Well, Inc.
P.O. Box 441047
Aurora CO 80044
(303) 690-6004

Video Reader

Schneier Communication Unit
1603 Court Street
Syracuse NY 13208
(315) 455-7591

Quick Talk, Sound Match,
Magic Cymbals, Say It

Sensory Aids Foundation
399 Sherman Avenue, Suite 12
Palo Alto CA 94306
(415) 329-0430

Publishes software for visually
impaired children

Larry Skutchan
337 S Peterson
Louisville KY 40206
(502) 896-1288

ProWords, ProTerm
Teacher's Pet
Talking Word Processor

SOFTWARE FOR THE BLIND/VISUALLY IMPAIRED (cont.)

Smith-Kettlewell Institute
2232 Webster
San Francisco CA 94115
(415) 561-1630

Talking Checkbook Program
Talking Games

SPEECH Enterprises/Access Unltd.
10622 Fairlane Drive
Houston TX 77024
(713) 461-1666

Tall Talk Screens, Tall Talk
Prints, Tex-Talk, Talking TFD

The following programs, developed by other companies, are available through SPEECH Enterprises/Access Unltd. (see above)

Peter Scialli

Ultimate Banker
Ultimate File Cabinet
Audio Tutorial Braille Game
Talking Term Exec
Walt Sautter

Pete Rossi
Quinsept
Tell'n Spell

Talking Computer Products
100 Main
Wallace KS 67761
(913) 891-3532

Publishes talking check book
program and 4 talking game
disks

Talking Computer Systems
P.O. Box 524
Revere MA 02151
(617) 289-3828

Phone List and
Filing Program

The Communicator
Rt. 4, Box 263
Hillsville VA 24343
(703) 766-3869

10 Public domain talking disks



*"Simplified Technology for
the Severely Handicapped"*

LINDA J. BURKHART

8503 Rhode Island Ave.
College Park, MD 20740

MORE HOMEMADE BATTERY DEVICES FOR SEVERELY HANDICAPPED CHILDREN WITH SUGGESTED ACTIVITIES BY Linda J. Burkhardt

This book is a continuation of the first book. Homemade Battery Powered Toys and Educational Devices for Severely Handicapped Children. It is more than twice as long and is full of new ideas and devices for the severely handicapped. All of the devices are described with complete directions for construction. No special skills are needed and most materials and tools can be found around the house or purchased inexpensively at local stores. This book also includes an extensive chapter on suggested activities for incorporating these devices into many aspects of the child's program. The areas covered include: cognitive, communication, motor, self-help and social skills. The activities list suggested goals, materials, and procedures.

The book has a wide range of applications and should be useful to parents, teachers, specialists of vision, hearing, speech, physical and occupational therapists, and other friends of the handicapped.

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CHAPTER ONE - SWITCHES

COOKIE SHEET SWITCH
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GRASP SWITCH
PENNY PINCHER
WET PANTS SIGNALER
POTTY TRAINING SWITCH
KITCHEN SWITCH
SIMPLE KITCHEN SWITCH
DELAY TIMER
BLOW SWITCH
OBJECTS IN CONTAINER SWITCH
PRE-WRITING SWITCH
TWO DIRECTIONAL ROCKING SWITCH
DOUBLE CHEEK SWITCH

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CHAPTER THREE - COMMUNICATION

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VOICE CONTROLLED SWITCH
ADDRESS FILE COMMUNICATION BOARD
TACTILE/AUDITORY - YES/NO BOARD
POINTING TRAINING SWITCH

CHAPTER FOUR - PROGRAM SUGGESTIONS

SELECTING APPROPRIATE REINFORCEMENT
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COMMUNICATION DEVELOPMENT
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SOCIAL & SELF - DEVELOPMENT

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LINDA J. BURKHART
8503 Rhode Island Ave.
College Park, MD 20740

NEW BOOK!

MORE HOMEMADE BATTERY DEVICES FOR SEVERELY HANDICAPPED CHILDREN WITH SUGGESTED ACTIVITIES

Linda J. Burkhart



FEATURES:

- ★ 19 NEW SWITCHES - EASY TO MAKE - WITH COMPLETE DIRECTIONS AND CLEAR ILLUSTRATIONS
- ★ DIRECTIONS FOR MAKING TOY ADAPTERS
- ★ SIMPLE COMMUNICATION DEVICES - WITH DIRECTIONS FOR CONSTRUCTION
- ★ PROGRAM SUGGESTIONS IN THE AREAS OF:

COGNITIVE DEVELOPMENT
COMMUNICATION DEVELOPMENT
MOTOR DEVELOPMENT
SELF-HELP & SOCIAL DEVELOPMENT

AUTHORING DISKS FOR USE WITH ECHO, MUPPET KEYS AND POWER PAD

DISK 1: Muppet Test and Tutor Authoring Program

Muppet Communication Board Program

DISK 2: Power Pad Test and Tutor Authoring Program

Power Pad Communication Board Program

DISK 3: Voice Prompted Programs

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AVAILABLE FROM:

**Mr. Bill Ziegler
Bucks County Intermediate Unit
Routes 611 & 313
Doylestown, PA 18901**

operation under a Federal, state, or municipal franchise or monopoly and by regulation and control through a commission or body representing the public.

Price/Earning_Ratio: Stock price divided by estimated earnings

Range: The difference between the high and low price of a Future during a given period, as in one day's trading session.

Ratio_Analysis: Analysis of the relationship of items in financial statements. The relationships are expressed as either ratios or percentages.

Securities: Corporate issues which are traded on the Securities Market. There are four classifications of securities: (1) railroad, (2) public utility, (3) industrial, and (4) financial.

Stockholder: An individual, partnership, or corporation that owns one or more shares of corporate stock.

Yield: A measure of annual return on the purchase price of a share of stock. (The yield and dividend rate on a share of stock will not necessarily be the same.)

DOCUMENT RESUME

ED 299 721

EC 210 800

AUTHOR Ghobrial, Talaat Mansour; Vance, H. Robert
TITLE Special Education in Egypt: An Overview.
PUB DATE 88
NOTE 13p.; Partially funded by the International Exchange of Scholars.
AVAILABLE FROM Dr. H. Robert Vance, Research Director, Center for Early Childhood Learning and Development, Box 15,520A, East Tennessee State University, Johnson City, TN 37614-0002.
PUB TYPE Reports - Descriptive (141)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Delivery Systems; *Disabilities; Educational Change; *Educational Policy; *Educational Practices; Elementary Secondary Education; Foreign Countries; *Governmental Structure; *Government Role; Handicap Identification; Rehabilitation; *Special Education; Special Education Teachers; Student Needs
IDENTIFIERS *Egypt

ABSTRACT

During the past three decades, there has been a growing concern for handicapped children and youth in Egypt. Current legislation recognizes the rights of the handicapped, and the Egyptian government supports the care, education, rehabilitation, and personal/social adjustment of handicapped citizens. The responsibility for the disabled is divided among the Ministry of Education (concerned with the education of blind and partially sighted, deaf and partially deaf, and mentally retarded); the Ministry of Social Affairs (which provides rehabilitation services to all disabled persons), the Ministry of Health, and the Ministry of Manpower. Many problems still need to be addressed in the educational system. The position of special education teacher is viewed as a less than desirable position, socially and economically, and many low-achieving students are urged to enter the field. Preschool assessment procedures do not exist; and the system for identifying exceptional school-age children is antiquated, relying on outdated instruments which often have invalid norms. Special instructional needs of handicapped students are often not considered. Services need to be developed for severely emotionally disturbed children, preschool handicapped children, and disabled adults. (JDD)

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SPECIAL EDUCATION

IN EGYPT AN OVERVIEW

Talaat Mansour Ghobrial

Ain Shams University

H. Robert Vance

East Tennessee State University

This work was sponsored in part by the International Exchange of
Scholars while Dr. Ghobrial was a Fulbright Scholar at East
Tennessee State University

Requests for reprints should be sent to Dr. H. Robert Vance,
Research Director, Center for Early Childhood Learning &
Development, Box 15,520A, East Tennessee State University, Johnson
City, TN 37614-0002

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EC 210 800

Abstract

Special education practices in Egypt
are highlighted in this article.

Problems, potential pitfalls, and
future directions for teacher education
are discussed. In addition,
current educational programs which are
available to children and youth who are
handicapped are reviewed.

During the past three decades, there has been an obvious growing concern for the handicapped children and youth in Egypt. This concern was accompanied by a degree of change in society's attitudes toward its handicapped members and services offered for them.

Historically, two main stages characterize the development of attitudes toward the disabled child and adult: the first is pity and protection, and caring. This philosophy is rooted in the Egyptian and Islam culture. The second and current stage is marked by acceptance of the handicapped person and caring for them with a degree of integration into society.

Current legislation for the handicapped in Egypt accepts this later position and recognizes the right of the handicapped. Different branches of the Egyptian government (executive, judicial, and legislative) have supported the worth, caring of, education of, rehabilitation of, and personal-social adjustment for the handicapped citizens. There is a growing interest in and demand for increased services for handicapped children. The Egyptian government has played a major role in responding to this interest and demands, through various ministries such as Education, Social Affairs, Health, and Manpower. The passage of the Ministerial Decision of the Ministry of Education no. (156) in September of 1969 marshal support for handicapped individuals.

According to this decision, Article No (1) defines handicapped children, the various categories and the major objectives of schools and classes for Special Education. "Handicapped pupils are defined as those having sensory, mental, or physical impairments, and cannot pursue their education in

ordinary schools. The purpose of these Special Education schools is to provide educational, social, health, and psychological services to the handicapped at different educational levels. These schools are determined and established through the Ministry of Education and divided into the following categories Visual, Hearing, and Mental Retardation. The Ministerial Decision (#159) addresses such issues as screening, selection process, enrollment of, curricula for, evaluation of, teacher education pupil programs, management and research in the area of Special Education.

The estimated number of disabled people in Egypt appears to be higher than that of developed countries. Although reliable statistical evidence concerning the number of disabled in Egypt is not well established, it appears that as much as eight percent of the current population (36 million) (1976 census) are disabled which is probably an underestimation. The responsibility for the education of and caring for the disabled is divided between a number of ministries which include the Ministry of Education, Ministry of Social Affairs, Ministry of Health, and Ministry of Manpower.

The Ministry of Education, through the Ministerial Decision of 1969 is mainly concerned with the education of three major categories of handicapped children and youth (Blind and Partially Sighted, Deaf and Partially Deaf, Mentally Retarded Children).

The Light Schools are designed for the blind and partially sighted students. These schools have the responsibility for educating Blind and Partially Sighted Children in the Egyptian educational system. Primary and preparatory and 3 years for secondary education) throughout university education. The schooling consists of six years of elementary, three years of

preparatory, and three years at the secondary level (ages 15 to 18). Besides Cairo and Alexandria, every Governorate (24) has a minimum of one school for the blind and another for the partially sighted for the children between the ages of 6-8 years. The Ministry of Education provides limited vocational rehabilitation training for this category of impairment through vocational preparatory schools of 3 years after primary education.

Hope Schools are for the deaf and partially deaf (hard of hearing). The Deaf (Hope) Schools admit children between the age of 5 to 7 years whose hearing is between 120-70 db in the best ear and are of average intelligence. Schools for the partial deaf or hard of hearing serve children who have a hearing impairment between 70-50 db are of average intelligence and have developed a vocabulary to cope with an educational program. There are a total of 30 Hope Schools throughout Egypt which provides for 8 years of services schooling for 8 years and 25 preparatory (vocational) schools which provide 3 years of service. There are no secondary education for the deaf and the partially sighted.

Schools for Intellectual Education. Mentally retarded children, between 6-12 years of age, with I.Q. between 50-70 are served in this education setting. The elementary stage continues for 8 years, then follow by a vocational preparatory stage for another 3 years. There are no programs for children whose IQ is below 50. There are no programs at the secondary level for MR youth.

The Ministry of Education had developed an elaborate program (1985-86) for the improvement of Special Education at the Basic Education level in Egypt (grades one through six) with the Academy of Educational Development of the United States Government (Work Order No. 7).

The role of Ministry of Social Affairs, is to offer rehabilitation services to all disabled persons in Egypt, according to the Public Law of 1975 for Rehabilitation. These services are implemented by different agencies.

Rehabilitation Offices: There are 51 of these offices distributed throughout Egypt, Rehabilitation officers provide basic rehabilitation services for any case referred to them including medical, social, and vocational evaluation, provision of mobility aids, prosthetic and orthotic appliances as well as vocational training. Each individual case is monitored until final placement is achieved. The rehabilitation offices are usually locally based within a community but their staff can refer any case for specialized care and/or further treatment.

Comprehensive Rehabilitation Centers: There are 35 of these centers throughout Egypt which concentrate their efforts toward such handicapping conditions as mental retardation, deafness, visual impairment blindness, and physical disability.

Sheltered workshops: The sheltered workshop provides training for severely physically disabled, convalescent tuberculosis cases and leprotics.

Private Organizations: There are about 10 of these organizations working to promote the betterment of the disabled. Some of these are WAFA-ELAMAC Society, Happy Childhood Society, Society for The Future, which are in the private sector and

provides the handicapped person with such services as research. The Ministry of Social Affairs has had an elaborate program for Rehabilitation Research, which began in 1962 with the Department of Health, Education, and Welfare of the United States Government and the National Institute for Rehabilitation Research in Washington, D.C. Currently, there are more than 25 research programs and projects. In addition, the Ministry of Social Affairs supervises various sport programs for the disabled individual. The Ministry of Health is responsible for primary health care throughout the country which includes preventive measures, immunization. The employment of handicapped falls under the responsibility of the Ministry of manpower.

Egypt, in 1975, passed the Rehabilitation Act which mandated that five percent of any work force (company, industry) must consist of handicapped individuals. In order to be considered employable, a handicapped person must have received a Rehabilitation Certificate which indicates that he/she is ready to work.

Assessment practices regarding the identification of special needs students are usually based on out-of-date tests and unsound policies. For instance, the Ministry of Social Affairs conducted a recent survey (1986) in order to determine the most popular assessment instrument used by psychologists working in the centers. The results of the survey indicated that the seven most popular psychological tests in use were:

- (1) Stanford-Binet Intelligence Scale; (2) Wechsler-Bellevue Intelligence Scale; (3) Goodenough Draw-a-Man Test; (4) Pictorial Test of Intelligence; (5) Sequin Form Board; (6) Porteus Maze Test; (7) Non-verbal Intelligence Test; (8) Wechsler Intelligence Scale

for Children; (9) Vineland Social Maturity Scale; (10) Thematic Apperception Test; and (11) House-Tree-Person Person.

Institution of Teacher Education: These teacher's training or schooling consists of six years at the elementary level and three years of Preparatory School (like a junior high). Advancement at the end of the Preparatory School, is dependent on achievement (grades). The higher a student's grades, the more likely he/she will go to a Secondary School if the grade or degree is somewhat lower than usual, the student will elect to go to a Technical School (such as Agriculture or Commerce) for three years or they can attend an Institute of Teacher Education for five years. The prospective Special Education teacher at the Elementary level after completing the required studies at the Institute of Teacher Education, must complete an additional year's study which focuses entirely on Special Education courses. However, this teacher must select one of the three categories of impairment for specialization. Upon completion of this program, he/she receives a Diploma in Special Education. Secondary level special education teachers must complete the following pattern of educational training, six years of elementary, three years at preparatory, three at secondary, four years at a university which has a Faculty of Education and then one year of Special Education Training. Upon completion of these requirements, he/she receives a Special Diploma in Special Education and are eligible to teach within their one area of certification at the Secondary Level. The majority of course work is purely memorization with little emphasis on applied or field work. In addition, little attention is directed toward a generic or specific teaching strategies. Higher technology (micro-computers, electronic aids, computer managed instruction,

speed tape players, portable communication aids) has yet to emerge in the area of instruction. The student teaching experience is a very brief period consisting of limited classroom exposure with little or no designed purpose. A special education teacher's positions in Egypt is generally viewed as a less than desirable position not only from an economically but also socially. The practice of tracking lower achieving students into a special education teacher education program is a less than desirable criteria for determining who teaches the handicapped children and youth of Egypt.

Present Status vs Future Expectation

Egypt within the past ten years has made tremendous progress in providing services for its handicapped population. This is especially true in light of Egypt's economy, its rural area, and the fact that Egypt is still considered as a developing country. However, there are many problems which still need to be addressed and changes need to occur.

Egypt's Special Education teacher selection process is woefully inadequate and the criteria for pushing low achieving students into the teaching profession will serve only to compound the problem of poorly prepared teachers who are perceived as having "a low teacher (work) position" in the educational employment work force. In addition, the field is essentially made up of females. This is probably due to the economic and social status associated with teachers of handicapped children and youth.

Screening and Assessment

Egypt currently teaches an effective screening identification

and assessment model or process for identifying exceptional children. Pre-school assessment procedures are totally absent and the existing system of identifying exceptional children is antiquated relying on outdated instruments which usually have invalid norms. Emphasis is still placed solely on the IQ and the clinical aspect of testing. Absence is the theme of assessment as an integral part of teaching and learning. The leading educators of Egypt need to reinforce the basic theme that assessment (screening & diagnosis) is the process of gathering information from a variety of evaluation processes or procedures and making sound decisions concerning placement, services, programs and evaluations concerning an individual's handicapping condition and his/her schooling. This method would allow educators to look within the individual for areas of strengths and weaknesses to provide directions for their work with the student, correct assessment procedures, and would bridge the gap between identification and intervention. Egypt should also begin to develop appropriate instruments which can be used for early identification of pre-school children suspected of being developmentally delayed.

Instruction and Curriculum

Handicapped children by their general nature, exhibit a much larger range of behaviors than the non-handicapped. These children are called handicapped because their behaviors are different from the "normal child". With this in mind, we should realize that no single method, no style of education, no single grouping arrangement or no one set of materials can be suitable for all. Teachers must use a wide variety of teaching techniques, philosophies and environments to teach exceptional learners. In

addition, the techniques and materials used to teach a mentally retarded child are quite different from those used to teach a deaf child. In Egypt, these considerations many times are not taken into account when teaching exceptional children. The curriculum used for all children (normals) is usually watered down "and applied to the exceptional learner. In other words, individuals handicapping conditions, learner's characteristics, developmental level of the child, and his or her special needs are not taken into consideration when planning instructional activities and in direct teaching-educational planning, activities, and a differential curriculum are lacking for different categories of handicapping conditions. In addition, materials, resources, and teacher and instructional aids are often insufficient and inappropriate. Teacher training institute should begin to introduce their students early in their educational career to children who have various handicapping conditions. Also, students also need to have more practical experiences in their teacher education training -- programs such as practicums, field trips, and longer student teacher experiences. Faculty of the Institutes of Education should begin to emphasize the level of severity of a handicap is as important as the type of handicap in planning instructions strategies and placement for handicapped children. Teachers need to understand this important principle in matching instruction to a child's characteristics (which is often dependent on the age of the student). The younger the student, emphasis is often placed on developmental, whereas the student emphasis is often placed on basic academic and social skills.

Reflection

Egypt has made great strides in the past ten years regarding the education of and care for exceptional children and youth. However, areas of educational reform regarding the education and rehabilitation of handicapped individuals which are solely neglected. For instance, there are no services for the severely emotionally disturbed child. Adult services are another area of neglect. Egypt does not have a category known as learning disabled which is probably a blessing. Services to pre-school handicapped children are virtually nonexistent and services which are available come from the private sector and are costly. Services for handicapped individuals are divided and provided through different ministry which even further reduces actual delivery of services. Joint efforts are needed between all ministries in order to provide for and educate individuals who have special needs. Attempts have been made at mainstreaming handicapped children in the regular schools and have been promising. However, parents and teachers of exceptional children in Egypt have experienced similar problems as to those experienced by teachers and parents in the United States, in that by merely placing the handicapped in the same educational setting acceptance, social awareness, expectations, and attitude changes have been much slower to change, and in fact resistance has often occurred. Social, political and economic factors will continue to affect what happens in Egypt regarding Special Education.